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ABSTRACT

Multiple qualitative methodologies were used to describe and analyze the Maternal and Child Health Training Program (MCH), including a review of FY1999 continuation applications for all 101 projects; site visits to 31 training projects; focus groups with state Title V program staff and federal regional MCH consultants; and interviews with 110 trainees who graduated from training projects in 1990 or 1995. A statistical overview showed the Leadership Education in Neurodevelopmental and Related Disabilities priority was the largest single category in the grant portfolio, supported the most faculty, and produced the most trainees. Leadership training enhanced trainees' ability to become effective more quickly; provided some with a positive sense of self efficacy; and included fairly intensive guidance. Grants enabled faculty to undertake activities to help them become strong leaders in their fields. MCH nurtured new professional subspecialties; influenced professional associations; developed innovations in treatment and services; served as a voice for women and children; and encouraged research. Projects generated impressive amounts of technical assistance, continuing education, and cross-project collaboration. Without direct funding, most universities had no incentive to support MCH. Recommendations fell into these four categories: planning, assessment, and evaluation; portfolio policies; budget; and program stewardship. (Appendixes include 21 notes; 50-item bibliography; and additional information from interviewees.) (YLB)

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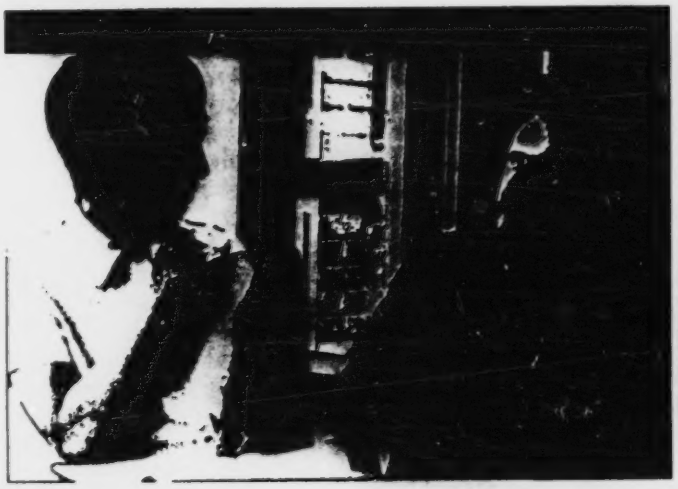

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Georgetown University

The MCH Training Program: An Evaluation

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Table of Contents

In Memoriam vi
Acknowledgments vii
Training Program Priorities and Definitions viii

Chapter 1: Introduction and Methodology 1
Background 2
The Training Program and the MCH Mission 3
Goals of the MCH Training Program 5
Needs Addressed by the MCH Training Program 7
Focusing the Evaluation 9
Study Methodologies 9
Summary 13

Chapter 2: A Statistical Snapshot of the MCH Training Program 15
MCH Training Program Expenditures 16
Resources Devoted to Trainees 16
Resources Utilized for Faculty Leadership 19
Distribution of MCH Training Program Grants 22
Summary 25

Chapter 3: Training for Leadership 27
Differences in Leadership Training Among Projects 28
Aspects of Training for Leadership 31
Assessing Project Success in Training Leaders 33
Summary 44

Chapter 4: Supporting Faculty in Leadership Roles 45
The MCH Training Program Model of Leadership Versus the University Model of Scholarship 46
Collaboration and the Interdisciplinary Approach 47
Fostering Change Within Universities 48
The Need for MCH Faculty Leaders 49
Summary 50

Chapter 5: Contributing to Advances in the Field 51
Nurturing New Professional Subspecialties 52
Influencing Professional Associations 52
Developing Innovations in Treatment and Services 53
Serving as a Voice for Children 54
Encouraging Research 55
Fostering Diversity 55
Summary 59

Chapter 6: Promoting Collaboration 61
Technical Assistance, Consultation, and Continuing Education 62
Collaboration Across Projects and with Nonfunded Universities 65
Collaboration with Title V Programs 66
Summary 68

Chapter 7: The Economics of MCH Training 71
The Role of Tuition in Academic Decision-Making 72
The Role of Other Funding Sources in Academic Decision-Making 74
The Impact of Reimbursement on Clinical Training 75
Leveraging of MCH Training Program Grants 77
Summary 79

Chapter 8: Recommendations 81
Planning, Assessment, and Evaluation 82
Portfolio Policies 85
Budget Policies and Guidelines 88
Program Stewardship 89
Conclusion 95

Notes 97
Bibliography 101

Appendices
A: MCH Training Program Evaluation Project Advisory Committee Members 107
B: Site-Visited Projects and Project Directors 109
C: Additional Information on Interviews with Former Trainees 113

Tables

Table 1: Maternal and Child Health Bureau Long-Term Training Program Priorities, FY 1999 17
Table 2: Median Awards by Priority Area, FY 1999 20
Table 3: Trainees Supported by MCH Training Grants, FY 1999 21
Table 4: Faculty Supported by MCH Training Grants, FY 1999 23
Table 5: Demographics of Former Trainee Sample and Respondents 116
Table 6: Current Employment of Former Trainees 117
Table 7: Former Trainees' Participation in Leadership Activities 118

Figures

Figure 1: MCH Pyramid 4
Figure 2: MCH Training Program Logic Model 10
Figure 3: Allocation of Training Program Funds Among Priorities, FY 1999 19
Figure 4: Training Program Grantee Budgets, FY 1999 22
Figure 5: MCHB Training Grant Sites, FY 1999 24
Figure 6: Former Trainees Still Practicing in MCH Field 37
Figure 7: Job Change After Completing MCH Training 37
Figure 8: Job Change Attributed to MCH Training 38
Figure 9: Former Trainees Who Had a Faculty Mentor 38
Figure 10: Importance of Faculty Mentoring to Former Trainees' Careers 39
Figure 11: Former Trainees Who Received Continued Mentoring After Training 41
Figure 12: Former Trainees Who Consider Themselves Leaders in the Field 42
Figure 13: Leadership by Cohort 42
Figure 14: Examples of Leadership Activities of Former Trainees 43
Figure 15: Examples of Recent Leadership Activities of MCH Training Program Grant Faculty 53
Figure 16: Examples of Treatment and Service Innovations 54
Figure 17: Examples of Policy Work of Grantees 56
Figure 18: Publications Produced by Supported Faculty and Trainees, FY 1999 57
Figure 19: Examples of Technical Assistance, Consultation, and Continuing Education 64
Figure 20: Examples of University-Based Collaborations 67
Figure 21: Examples of Consultation with Nonfunded Universities 68
Figure 22: Examples of Collaborations Between Title V Offices and MCH Training Program Projects 69

In Memoriam

Vince L. Hutchins, M.D., M.P.H. (1928–2001)

Dr. Vince Hutchins was a key member of the team that worked on this evaluation. His insights into and knowledge of the Maternal and Child Health (MCH) Training Program provided direction and guidance to other team members, and his joy in life and the pleasure he gained from his work were an inspiration. Despite the fact that he had one of the most illustrious careers possible in MCH, he was modest and self-effacing. He treated everyone he encountered with kindness and sensitivity, and he made people believe in their own abilities. His laughter, his wisdom, and his warmth are greatly missed. He was a colleague, a teacher, a mentor, and a friend, and he lives in our hearts.

Acknowledgments

This report could not have been completed without the support and assistance of many people.

We are especially grateful to training project directors who organized site visits and graciously gave of their time, energy, and knowledge. We also appreciate the time and candor of the individuals interviewed at each site, including faculty, students, university administrators, and recipients of continuing education and technical assistance. The information they provided about the Maternal and Child Health (MCH) Training Program was invaluable. Appendix B provides a listing of all site-visited projects and project directors.

We extend thanks to the former trainees who shared their MCH Training Program experiences with us, either via telephone or through written responses. They provided valuable insights about the program and described the impact it has had on them personally.

Thanks also go to state Title V directors and MCH regional consultants who participated in focus groups and to other individuals who shared their knowledge of the MCH Training Program, in particular, Jim Papai and Joann Gephardt, R.N. Their thoughtful perspectives enriched this report.

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Finally, this report could not have been completed without the help and support of colleagues at the National Center for Education in Maternal and Child Health. Rochelle Mayer, Ed.D., director, provided guidance in conceptualizing and implementing the study design and perceptive ideas for presenting the findings. The following NCEMCH Publications Department staff and consultants provided editorial and artistic contributions: Carol Adams, M.A., director of publications; Oliver Green, senior graphic designer; and Megan O'Reilly and Beth Rosenfeld, editorial consultants.

Training Program Priorities and Definitions

Brief descriptions of the 13 long-term priorities of the Maternal and Child Health (MCH) Training Program are provided below, along with abbreviations and acronyms that are commonly used throughout this document.

Interdisciplinary Priorities

Leadership Education in Adolescent Health (LEAH)

The purpose of the LEAH priority is to provide interdisciplinary leadership training, faculty development, continuing education, scholarship, technical assistance, and collaboration with MCH programs, Title V programs in state departments of public health, state adolescent health coordinators, policymakers, and professional organizations concerned with the health of adolescents. Leadership training produces the next generation of leaders who will influence and train clinicians, public policy and public health experts, investigators, and educators. All of these individuals will move the field forward by improving clinical services, program development, and research/evaluation. The professionals trained include physicians, nurses, social workers, nutritionists, and psychologists.

Leadership Education in Neurodevelopmental and Related Disabilities (LEND)

The LEND priority trains individuals to improve the health of infants, children, and adolescents who have, or are at risk for, developing neurodevelopmental or related disabilities. LEND prepares trainees from a wide variety of professional disciplines to assume leadership roles and to ensure high levels of clinical competence. LEND objectives include the following: (1) to advance the knowledge and skills of the full range of child health professionals in order to improve health care delivery systems for infants, children, and adolescents with developmental disabilities; (2) to provide high-quality education for health professionals; (3) to provide a wide range of health professionals with the skills needed to foster a community-based partnership of health resources and community leadership; and (4) to promote innovative practice models that enhance cultural competence, partnerships among disciplines, and family-centered approaches to care. Professionals trained include physicians, nurses, social workers, nutritionists, speech-language pathologists, audiologists, pediatric dentists, psychologists, occupational therapists, physical therapists, and health administrators. Recently, parents of infants, children, and adolescents with neurodevelopmental disabilities have been added to the faculty of LEND projects as consultants.

Pediatric Pulmonary Centers (PPC)

Pediatric pulmonary centers prepare health professionals for leadership roles in the development, enhancement, and improvement of community-based, family-centered care for infants, children, and adolescents with chronic respiratory diseases, including asthma. PPCs collaborate with other MCH agencies and professional organizations in the development of materials of regional and national significance, such as professional education materials and clinical practice guidelines, and in the provision of continuing education. They also engage in active partnerships with state and local health agencies and health professionals and serve as models of excellence in training, service delivery, and research related to the prevention and treatment of chronic respiratory conditions in infants, children, and adolescents. Professionals trained include physicians, nurses, nutritionists, pharmacists, respiratory care practitioners, and social workers.

Schools of Public Health (SPH)

Training projects in schools of public health aim to (1) educate future leaders and assist current leaders in solving MCH public health problems; (2) discover and test solutions to these problems by conducting applied research; and (3) improve the health status of women, infants, children, and adolescents through technical assistance to communities. The programs use a competency-based curriculum designed to train students to become leaders in public health practice, research, planning, policy development, and advocacy.

UNIDISCIPLINARY PRIORITIES

Behavioral Pediatrics

The purpose of behavioral pediatrics training projects is to enhance behavioral, psychosocial, and developmental aspects of general pediatric care. The projects support fellows in behavioral pediatrics to prepare them for leadership roles as teachers, researchers, and clinicians. In addition, these projects provide pediatric practitioners, residents, and medical students with essential biopsychosocial knowledge and clinical expertise.

Communication Disorders

The communication disorders priority trains speech-language pathologists and audiologists to provide comprehensive services to infants, children, and adolescents and to promote the advancement of the field through information and knowledge dissemination. Speech-language pathologists and audiologists are trained for leadership roles in education, service, research, administration, and advocacy.

Historically Black Colleges and Universities (HBCU)

This priority has a dual purpose: (1) to enhance the education and training of residents in obstetrics adolescent gynecology, family practice, and pediatrics for the provision of primary care in community-based settings, especially for underserved populations; and (2) to stimulate the interest of African-American and Hispanic high school and college students in MCH-related professions through mentorship programs.

Nursing

The purpose of the nursing priority is to provide postprofessional graduate training in nurse-midwifery, pediatric nursing, and adolescent nursing, with the goal of ensuring MCH leadership in academia and community-based health programs. The nursing projects also provide continuing education to nurses in the field.

Nutrition

This priority aims to promote healthy nutrition of infants, children, and adolescents by providing graduate training to nutritionists and registered dietitians who are prepared for public health leadership roles. In addition, short-term training (e.g., 1-day continuing education, week-long intensive courses, 3-week to 3-month practica) is provided to individuals from a variety of disciplines, including obstetricians, pediatricians, nurses, and nutritionists, focused on both clinical and public health approaches to maternal and infant, child, and adolescent nutrition.

Pediatric Dentistry

This priority provides postdoctoral training for pediatric dentists designed to foster leadership in administration, education, and oral health services. Attention is focused on infants, children, and adolescents with special health care needs, including those with behavioral problems. In addition, high-risk populations, such as children of migrant farm workers, Native American children, and children from low-income families, are targeted for provision of clinical dental services.

Pediatric Occupational Therapy

Increasing access to developmental programs for infants, children, and adolescents with disabilities, and ensuring that such programs are culturally competent and community-based, are the goals of this priority. Projects train master's and doctoral students for leadership roles and strive to affect occupational therapy training programs nationwide through the development and dissemination of educational resources, continuing education, and technical assistance.

Pediatric Physical Therapy

Pediatric physical therapists are needed to improve the functioning, level of independence, and quality of life of the increasing numbers of infants, children, and adolescents with disabilities and special health care needs. This priority provides postprofessional graduate training, including degree programs at the master's and doctoral levels, as well as nondegree offerings for pediatric physical therapists, in order to ensure leadership in education, services, research, and administration. These projects also serve as national and regional resources for continuing education.

Social Work

The social work priority aims to establish centers of excellence that promote public health training for social workers and support trainees to become leaders in their fields. Both master's level and doctoral training are supported. These centers also serve as regional resources for continuing education, and they disseminate educational materials to other social work programs nationwide.

1

Introduction and Methodology

The Maternal and Child Health Bureau (MCHB) has initiated a series of measures designed to increase accountability and improve decision-making. One of these efforts is an assessment of the impact of discretionary grants in the category of Special Projects of Regional and National Significance (SPRANS), which comprise an array of demonstration, research, and training grants.[1] The evaluation of the Maternal and Child Health (MCH) Training Program described in this document is part of this effort.

The National Center for Education in Maternal and Child Health (NCEMCH) at Georgetown University was awarded a grant that included as one of its objectives the development of a model for evaluating SPRANS projects. The first program to be evaluated was the Healthy Tomorrows Partnership for Children Program.[2] The MCH Training Program is the second SPRANS program to be evaluated. The evaluation focuses on the 13 long-term training priorities supported by MCHB; the continuing education grants, which are quite different from the long-term priorities, are not included in the study.

The training evaluation consisted of two phases. Because little had been written describing the Training Program, the purpose of phase I was to chronicle the program's history and development and to identify themes common to the 13 priorities. The product of phase I, *Building the Future: The Maternal and Child Health Training Program*,[3] was based on a review of Training Program documents, interviews with current and former federal staff associated with the program, and information obtained in focus groups from grantees in seven of the training priorities. An important outcome was greater clarity about the overall goals of the program. Phase II, the results of which are presented here, is designed to broadly assess the program's accomplishments, identify problems, and provide recommendations focused on program operations and management.

Background

MCHB and its predecessor agencies have funded long-term training in maternal and child health since the 1940s.[4] The Children's Bureau took a holistic approach to the care of children and families, viewing health, social, and emotional needs as inseparable and equally important. This perspective has permeated the MCH Training Program throughout its history.[4] Another hallmark of the program is its long-standing focus on vulnerable populations, including children with special health care needs and underserved women, children, and adolescents.

Much more than just a mechanism to support the education of individuals, the Training Program was designed to be a vehicle for national MCH infrastructure building. Training Program grantees were to be key partners with the federal government and the

states in improving the health of women and children through their work with professional associations, public agencies, and voluntary organizations, and to constitute a ready and willing cadre of individuals with expertise, dedication, and commitment to children.[3]

The Training Program and the MCH Mission

The Training Program is a key resource for MCHB as it strives to address the following goals articulated in its strategic plan:

- *Goal 1: Eliminate Barriers and Health Disparities:* The Training Program promotes this goal through an educational focus on health disparities, development of outreach services for children and families who have poor access to health services, and policy work, such as service on advisory committees or task forces.
- *Goal 2: Ensure Quality of Care:* A major aspect of the Training Program is quality improvement in the provision of health services. Grantees develop practice guidelines, assist states and communities with evaluation, disseminate research findings to various communities, and provide quality training for a new generation of MCH leaders and practitioners.
- *Goal 3: Improve the Health Infrastructure and System:* Trainees are taught the value of comprehensive systems of care, cultural competence, and family-centered care. Many grantees function as local, state, and national advocates to improve the health care system.

Interrelationship of the Training and Block Grant Programs

The MCH Block Grant program and the Training Program represent complementary approaches to addressing the health of women and children. In addition, the Training Program both directly and indirectly supports the Block Grant program. Examples of direct support include technical assistance and continuing education provided by Training Program faculty for state Title V programs, and examples of indirect support include activities such as standards development, policy work, information dissemination, applied research, and the education of a new generation of practitioners. The Training Program thus enhances MCHB's ability to serve as a catalyst for change and strengthens the context for the delivery of MCH services.

The MCH pyramid (Figure 1) is a graphical representation of the activities supported by MCHB. It identifies the levels of services provided through Title V. The Training Program is located in the base of the pyramid. Without this foundation, the other MCH functions would be severely compromised. The base consists of infrastructure-building services, including assessment and assurance functions and training. These infrastructure-building services were noted as critical areas of emphasis for public health programs in the landmark study conducted by the Institute of Medicine, *The Future of Public Health*.[5]

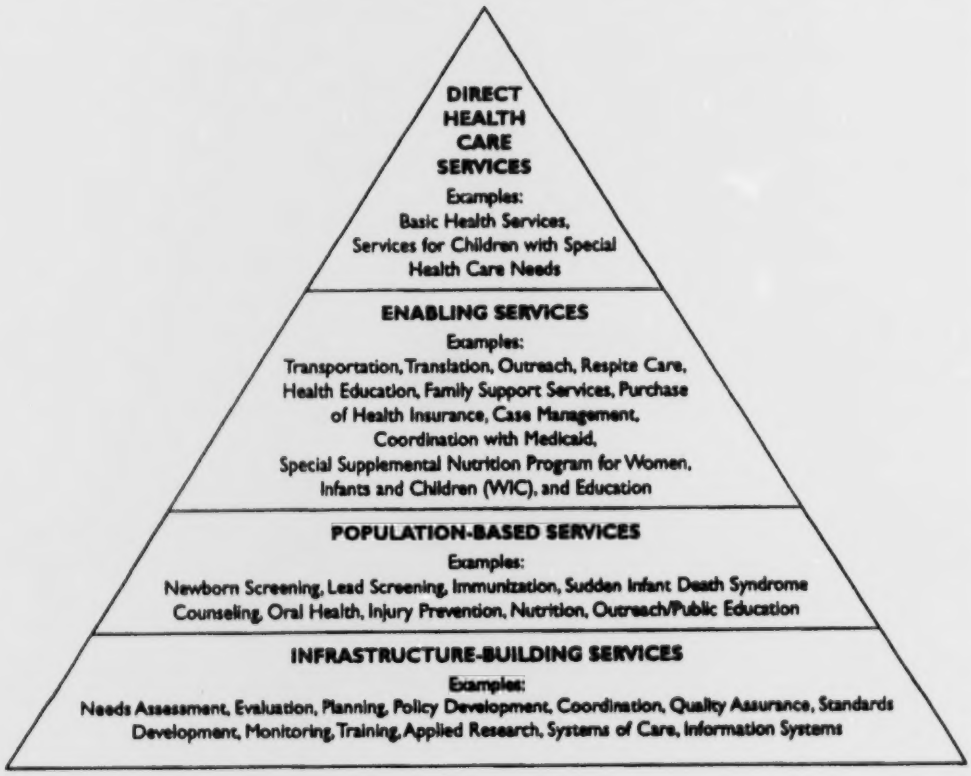
Interrelationship of Special MCH Initiatives and the Training Program

MCHB supports a number of special initiatives, and the alliances MCHB has established with universities through the Training Program are critical to the success of these initiatives. A few illustrative examples are provided below:

- *Children with Special Health Care Needs:* MCHB, in particular its Division of Services for Children with Special Health Care Needs, works to improve services for children with a

variety of disabilities. States receive MCH Block Grant funds to ensure that services are adequate and of high quality.[6] Several training grant priorities focus on children with special health care needs. The interdisciplinary approach of priorities such as LEND ensures that children with complex health and social needs receive coordinated care from a variety of disciplines. Most LEND projects work collaboratively with their state offices; in two states, the LEND program actually administers the state program for children with special health care needs. LEND grantees provide many of the experts (LEND program faculty) who are equipped to treat and diagnose children with neurodevelopmental disabilities, and LEND grantees deliver an array of clinical services within most states, serving as a referral source for the state programs. LEND grantees also provide community training and advocacy for special needs children, supporting the work of MCHB and state offices.[3] Other Training Program priorities, such as pediatric pulmonary centers, behavioral pediatrics, pediatric dentistry, communication disorders, and the occupational and physical therapy projects, also focus on children with special health care needs.

Figure 1: MCH Pyramid


DIRECT HEALTH CARE SERVICES
Examples:
Basic Health Services,
Services for Children with Special Health Care Needs
ENABLING SERVICES
Examples:
Transportation, Translation, Outreach, Respite Care, Health Education, Family Support Services, Purchase of Health Insurance, Case Management, Coordination with Medicaid, Special Supplemental Nutrition Program for Women, Infants and Children (WIC), and Education
POPULATION-BASED SERVICES
Examples:
Newborn Screening, Lead Screening, Immunization, Sudden Infant Death Syndrome Counseling, Oral Health, Injury Prevention, Nutrition, Outreach/Public Education
INFRASTRUCTURE-BUILDING SERVICES
Examples:
Needs Assessment, Evaluation, Planning, Policy Development, Coordination, Quality Assurance, Standards Development, Monitoring, Training, Applied Research, Systems of Care, Information Systems

- *Office of Adolescent Health:* Established in statute, MCHB's Office of Adolescent Health strives to improve the health of the nation's adolescents through special discretionary grants, policy work, support of Title V programs in improving adolescent health, and interagency collaboration.[7] The LEAH grants are integral partners in this work. They provide technical assistance to the state adolescent health coordinators, conduct research that furthers the goals of the Office of Adolescent Health, and generate policy documents that foster awareness of adolescent health issues. LEAH grantees form the core of the Society for Adolescent Medicine, the key professional association focused on adolescent health, and through this association they advocate for new policies and treatment approaches to benefit adolescents.[3] The Office of Adolescent Health's two policy center grants are housed in the same university departments as two of the LEAH grants; both the LEAH projects and the policy centers are strengthened through the complementary activities of the two categories of grants.
- *Crosscutting Initiatives:* From time to time, MCHB supports initiatives that cut across all its offices and divisions. The Training Program enables MCHB to more effectively accomplish such initiatives, as shown by the example of Bright Futures. Designed to improve quality of care for children and their families, Bright Futures is a set of expert guidelines and a practical developmental approach to providing health supervision for children from birth through adolescence, and consists of a variety of tools for health professionals, families, and communities.[8] The Training Program has been pivotal to the success of Bright Futures. For example, many of the experts on the panels assembled to develop the Bright Futures guidelines were either graduates of the Training Program or current faculty.[9] In addition, several training projects visited as a part of this evaluation have fostered curriculum changes, both within their own universities and nationwide, that build on the Bright Futures guidelines. The Training Program has played a central role in Bright Futures, albeit one that has gone largely unrecognized.

A great strength of the MCH Training Program over time has been its implicit recognition of the way in which social change occurs—through the synergy created by service providers, policymakers, academics, and family members working in concert. The Training Program is integral to this process.[3]

Goals of the MCH Training Program

The MCH Training Program addresses a diverse set of needs. And yet it has developed a cohesive set of goals that distinguishes it from other federal health training programs. The five goals of the MCH Training Program are to:

- train leaders;
- address the special health and social needs of women, infants, children, and adolescents;
- foster interdisciplinary care;
- change attitudes and practice (e.g., toward family-centered and culturally competent care); and
- emphasize the public health approach.

Prior to the publication of ***Building the Future: The Maternal and Child Health Training Program,***[3] these goals had not been clearly articulated in written documents.

Training Leaders

The MCH Training Program aims to train a new generation of leaders who can advocate for children and their families, provide quality clinical services, teach, and conduct research. Leadership training is a strategy chosen by MCHB to maximize the impact of a program with limited resources relative to need. Although it could be argued that the MCH Training Program has always trained leaders, this aspect of the program has recently become explicit and more central to the MCH Training Program mission.[10]

Addressing the Special Needs of Women, Children, and Adolescents

A key characteristic of the MCH Training Program is its focus on women, children, and adolescents. Historically, health professionals in a number of fields have not received adequate training in serving the special health and social needs of these populations, a situation that continues to the present day. The MCH Training Program is intended to address this gap.

Fostering Interdisciplinary Care

As children began to survive previously untreatable complications of birth, and as once-fatal illnesses became treatable, some health care providers turned their attention to the complex health and social needs of children with chronic health problems. Single disciplines cannot address the needs of many of the children who have special needs, and so, in the 1960s, an interdisciplinary model of care emerged from the experience of the University Affiliated Facilities (later renamed as University Affiliated Programs).[11] This model fosters collaboration among faculty and trainees from various disciplines as they work together to address the multifaceted issues of children with special health care needs. The MCH Training Program is currently one of the only sources of support for this type of training.

Changing Attitudes and Practice

Quality health care services are community-based, family-centered, and culturally competent.[12] In addition, health care should be coordinated, and health services should be integrated with other systems that serve women, children, and families (including education, justice, and social services). Noted in the Title V legislation that defined the Children with Special Health Care Needs (CSHCN) program, these aspects of service delivery have come to constitute core MCH values, and the Training Program attempts to ensure that they are integrated in each training project and that graduates of the Training Program reflect these values in their practices.

Emphasizing the Public Health Approach

The MCH Training Program has attempted to broaden the perspective of clinicians to an understanding of public health, of preventing problems from occurring among population groups. The public health approach recognizes that many health problems are rooted in the behavior of individuals and in their social context and that the environment plays a major role in health.[13] In contrast with the clinical medical approach, which explores the history and health conditions that may have led to health problems in a single individual, the public health approach focuses on identifying patterns among groups. It has four basic steps: (1) clearly define the problem; (2) identify risk and protective factors; (3) develop and test interventions; and (4) implement interventions.[14] The public health approach is a

rational and organized way to marshal prevention efforts and ensure that they are effective.

> *"Our faculty have learned about the public health perspective, advocacy, cultural competency, and family-centered care. Faculty who come from a clinical background were not trained with such a model. This is at the forefront of exemplary practice."*
>
> —Project director, Occupational Therapy

Needs Addressed by the MCH Training Program

Although the grantees of all 13 MCH Training Program priorities incorporate the general goals of the Program in their projects, the specific needs that individual priorities address vary considerably. Although MCHB recently funded a graduate training and continuing education needs assessment, it has not done so in the past;[1] rather, the priorities have arisen over time in an ad hoc way. This evaluation found that training needs, as reflected in the 13 priorities, are qualitatively different and may be conceptualized in several ways, as follows:

- *The scope and/or trajectory of a particular health problem:* A health problem may affect many people, be quite severe, and/or be dramatically increasing in scope, and the resources to address it may be inadequate. Asthma is an example: it is sometimes fatal, affects hundreds of thousands of children, and is growing in prevalence.[15] However, the resources to address asthma are not commensurate with its scope. The PPC training projects are working to understand and control asthma, along with other significant pulmonary diseases. Dental disease in children, and adolescent suicide, are other problems of great scope, ones that are preventable; these are being addressed by the pediatric dentistry and adolescent health priorities, respectively.
- *Lack of a doctoral-level professoriate:* In some health fields, the master's degree is the terminal degree, and persons capable of effectively teaching trainees (i.e., persons with doctorates) are few. An example is the field of communication disorders. The master's degree is the certifying degree for practicing audiologists and speech/language pathologists. In a robust economy, there is little or no economic incentive for practitioners to pursue a doctoral degree. Alternatively, a field may experience a decrease in the number of doctoral-trained individuals, with universities then having difficulty recruiting qualified faculty for available positions. MCH programs in schools of public health, for example, report difficulties in finding and attracting appropriately trained faculty. Pediatric dentistry is another field with difficulty recruiting

academics. Of those trained in pediatric dentistry, most tend to pursue private practice.

- *Complexity of clinical problems:* Some children are particularly difficult to treat, especially those with multiple disabilities and/or illnesses. An example is a child who is both autistic and blind. Such children typically require the services of a variety of health care professionals who have had special training, but these professionals may be in short supply. A recent study found that pediatricians lack training in providing medical care to children with special health care needs.[16] Children with special health care needs face not only complex clinical issues, but often have social and educational needs that must be met as well. Individuals trained in an interdisciplinary model that focuses on addressing such complex needs in collaboration with other professionals (both health- and non-health-related) are well-suited to provide this type of care, but may be even more difficult to find. The LEND priority addresses the need for training specialists to work with children with neurodevelopmental and related disorders.
- *Special needs of subpopulation groups:* Some population groups may be quite large and have special needs that have gone unmet. This is the case with adolescents. Adolescents have high rates of certain risk behaviors, such as use of cigarettes, alcohol, and other drugs, and also high rates of obesity and sexually transmitted diseases.[17] And yet, adolescent medicine is a relatively new subspecialty with few trained practitioners.[18] The LEAH projects train professionals in several disciplines to serve adolescents and promote improvements in adolescent health.
- *Perceived urgency of a problem:* A health care problem may be viewed as urgent, perhaps because new research has documented its prevalence or because practitioners in the field find that they confront it daily and lack the resources or knowledge to address it. Behavioral problems of children is an example: primary care practitioners are encountering increasing numbers of children with mental health and/or behavioral problems, such as attention-deficit hyperactivity disorder (ADHD) or depression, but most have neither the knowledge nor the requisite skills to treat children with these problems.[19] The behavioral pediatrics training projects aim to address this deficiency.
- *Inadequacy of MCH content in basic training programs:* Some professional training programs are designed to educate generalists who can serve the needs of a variety of patients or clients. However, these programs may lack appropriate MCH content. Examples include the fields of social work, occupational therapy, physical therapy, respiratory therapy, nursing, and nutrition. The MCH Training Program priorities in these disciplines address gaps in basic professional education.
- *Lack of racial and ethnic diversity:* In the absence of racial and ethnic diversity in a field, important issues may be overlooked in the provision of services and quality of care may be compromised. To ensure access and enhance quality, individuals from diverse backgrounds may need to be encouraged to receive training and then supported financially, academically, and emotionally. The Historically Black Colleges and Universities (HBCU) priority is intended to increase the number of professionals from diverse backgrounds providing primary care in community-based settings, with an emphasis on the special needs of families of African-American and Hispanic descent. Additionally,

efforts must be made to increase cultural competency among nonminority MCH professionals.

The Training Program has evolved over time to address needs as they have emerged. As social and medical issues change, new needs may be identified.

Focusing the Evaluation

The MCH Training Program is both large and complex. To focus the evaluation and ensure that the most important questions were asked, an MCH Training Program logic model (Figure 2) was developed in collaboration with the project's advisory board. A logic model helps to clarify the theory of any program and elucidates presumed relationships among different levels of action. The Training Program logic model shows that the outputs of the Program include technical assistance, consultation, and continuing education; research; clinical services innovations; faculty development; curricular changes; and increased numbers of students receiving training in MCH. These outputs lead to a set of intermediate outcomes that include dissemination of knowledge to the field; increased knowledge of how to serve the health and social needs of the MCH populations; improved delivery of clinical care; and the training of leaders, all of which generate better-quality care, more-integrated systems, and more-informed policy decisions, with the ultimate outcome of improved health for families.

Using the logic model as a guide, a set of evaluation questions was developed—again in collaboration with the advisory board—and a methodology appropriate to each question was identified.

Issues selected for analysis included the ways in which resources are utilized by training projects; the types of activities supported by the Training Program; the experiences of beneficiaries of the Training Program, including trainees and recipients of continuing education and technical assistance; the perceived impact of training projects on trainees; the ways in which projects are integrated into trainees' universities; and policy and administrative issues of potential interest to MCHB.

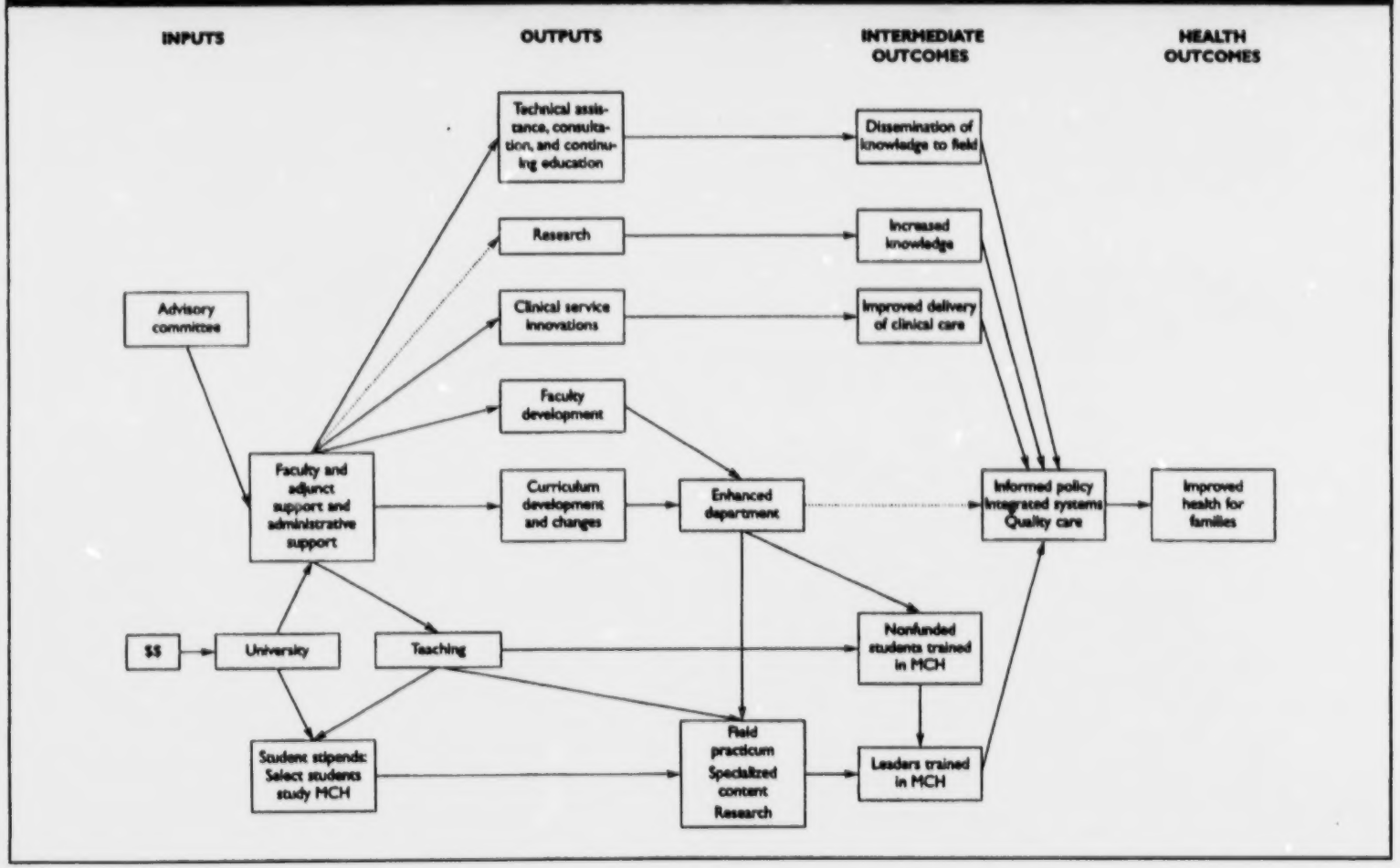
Study Methodologies

The methodologies selected for the evaluation included a review of the FY 1999 continuation applications for all 101 projects ("record review"); site visits to 31 training projects with interviews of multiple individuals at each site; focus groups with state Title V program staff and federal regional MCH consultants; and telephone interviews with 110 trainees who graduated from the training projects in either 1990 or 1995. Each of these methods is briefly described below. Technical documents, including questionnaires and other data collection instruments, will be posted on the NCEMCH Web site (http://www.ncemch.org/spr/default.html#mchbtraining).

Record Review

A review of the FY 1999 continuation applications for all 101 long-term training grants was undertaken first. This provided evaluation staff with an in-depth understanding of the program and was used to collect data that could be aggregated across projects. In addition, the record review allowed the evaluation staff the opportunity to review information from all projects, not just those that were site-visited. Data collected from the record review guided the development of protocols for the site visits; an effort was made to solicit only that information not available from materials that grantees had already provided to MCHB. General

Figure 2. MCH Training Program Logic Model



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topics on which information was collected included the following:

- Budget
- Administrative and organizational structure
- The educational program
- Demographic and other information on both current and former trainees
- Continuing education activities
- Technical assistance services, including policy work
- Research and publications of faculty

A form was developed to record quantitative data abstracted from continuation applications so that the data could be aggregated across the projects. However, a number of problems were apparent in this aspect of the study: (1) The variability in the types of training provided in different projects means that the validity of cross-category aggregations are suspect at best; and (2) there is no consistency in definitions among projects, even within the same priority, and thus aggregating data, particularly on such variables as the number of individuals receiving technical assistance or continuing education, is problematic. Nevertheless, this analysis represented the first time that all projects had been systematically reviewed for this type of information, and it provided a snapshot of aspects of the entire program at one point in time.

All data collected were stored in a database in FileMaker Pro for Mac OS Version 4.1 (Claris Corporation, Santa Clara, CA). Quantitative data were analyzed using SPSS for Windows, Release 10.1 (SPSS Incorporated, Chicago, IL), whereas narrative responses were summarized and examined for patterns in FileMaker Pro.

Site Visits

Site visits to training projects were undertaken in order to collect information on the major themes that emerged in phase I of the evaluation, to probe for additional information, and to provide an opportunity to interview beneficiaries of the projects. In order to ensure that the full scope of the Training Program was adequately reflected in the site visits, a set of criteria was developed to guide the selection of projects. The criteria included:

- geographic diversity;
- projects at publicly as well as privately funded universities;
- projects located in universities with multiple MCHB training grants, as well as those in universities with only a single grant; and
- projects that have been funded for a long period of time, as well as those that were more recently funded.

In addition, projects representing each of the 13 priorities were included, and priorities with the greatest dollar investment by MCHB were oversampled.

The site visits provided rich and in-depth information about the projects. A potential weakness of the site visits was the necessity of relying on the project directors to identify interviewees. Thus, there may be an inherent bias towards a favorable view of the projects. Nevertheless, the fact that many individuals at each site were interviewed enhanced the validity of the findings. Site visits are one of the best methods for developing a clear picture of a project.

Thirty-one training project sites were visited over the course of 8 months. (See Appendix B for a list of site-visited projects and project directors.) During the visits, interviews were conducted with the project director, dean and/or department chair, faculty, current trainees and recent graduates, and recent recipients of continuing education and/or

technical assistance. Interview protocols were developed for each category of interviewee.

Data gathered during the site visits were stored in a FileMaker Pro database, and narrative site visit reports for each site were prepared describing the team's findings.

Title V Focus Groups

Because Title V agencies should be key partners of training projects, the experiences of Title V directors in working with faculty and trainees of training grants were explored through a series of focus groups. An in-person focus group was conducted with five state Title V directors at the 2000 meeting of the Association of Maternal and Child Health Programs (AMCHP). Because the project budget did not permit additional in-person focus groups with other state Title V program staff, telephone focus groups were substituted. Title V directors (both state MCH and CSHCN directors) representing 6 of the 10 Health Resources and Services Administration (HRSA) regional offices (regions I, IV, V, VII, VIII, and IX) participated in these calls, along with federal regional office staff. Because most focus group participants in this study knew each other and were accustomed to meeting via monthly telephone conference calls, this approach may have been as fruitful as an in-person focus group.

Focus groups are an effective way to obtain the opinions of several individuals on a broad array of topics. The ability of participants to build on each other's ideas stimulates thinking and tends to result in comprehensive information. Thus, focus groups have become an important qualitative method for obtaining opinion-based information.

Narrative data from the focus groups were summarized and analyzed for patterns.

Interviews of Former Trainees

A significant outcome of the training projects is the trainees who complete the programs. Consequently, the evaluation included an appraisal of former trainees' perceptions of the impact of the Training Program on their professional development. In particular, the study attempted to determine whether trainees who completed the program either 5 or 10 years ago believe that they have become leaders and whether they attribute their success as a leader to the training they received.

A sample of 423 former trainees across 12 training priority areas was generated. Former trainees from the HBCU priority were excluded from the sample, as this category of grants does not financially support long-term trainees. Details of the sample selection process are included in Appendix C. The former trainees were contacted to either participate in a brief telephone interview or to provide written responses to the interview questions, which were mailed to them. Nonrespondents were followed up on with a postcard and multiple telephone calls. A total of 110 interviews were completed,

yielding a 26 percent overall response rate, and a 35 percent response rate among trainees for whom addresses and/or telephone numbers were presumed valid.

Both quantitative and qualitative data were obtained from the interviews and stored in a FileMaker Pro database. Quantitative data were analyzed in Stata statistical software release 7.0 (Stata Corporation, College Station, Texas), whereas the narrative data were summarized and examined for trends in the FileMaker Pro database.

The interviews provided the perceptions of the respondents regarding the extent to which they currently exercise leadership and their assessment of the impact of the Training Program on their careers. Budget constraints precluded the use of additional methodologies to further verify the former trainees' beliefs about these issues. However, the perceptions of the individuals most directly affected by the Training Program provide strong evidence of its impact.

Summary

This report presents the findings of an evaluation of a large, complex, and multifaceted program. Several qualitative methods were used to describe and analyze the program. Study methods selected were those most appropriate to the particular questions being addressed. The use of multiple methodologies helped validate the findings from each individual method. Findings are presented in the following chapters of this report, along with a set of recommendations designed to improve the MCH Training Program and help it accomplish its mission.

2

A Statistical Snapshot of the MCH Training Program

The MCH Training Program is the largest component of SPRANS; in FY 1999, it represented 31 percent of SPRANS outlays, totaling $32,759,789. This chapter provides information showing the distribution of Training Program dollars in FY 1999.

MCH Training Program Expenditures

In FY1999, MCHB supported 101 long-term training projects in 13 priority areas, as shown in Table 1. Each of the 13 priorities is briefly described on pages viii–x.

The largest category, accounting for 57 percent of total training dollars, is LEND. As shown in Figure 3, the next largest category is schools of public health, with 13 percent of all training dollars. The other categories range from 7 percent (adolescent health and PPCs) to 1 percent (occupational therapy, physical therapy, pediatric dentistry, and communication disorders). The differences in funding levels among the priorities are related to several factors: (1) the number of faculty members required to be supported by the grant (interdisciplinary projects, for example, are required to support several disciplines); (2) the type of trainees that the grants support (postdoctoral fellows, for example, receive higher stipends than master's-level trainees); and (3) timing of initiation of a priority (priorities with the longest history of support also receive the largest amount of funding).

Table 2 shows the median awards by training priority area for FY 1999. This table documents the variation of funding within the different priorities. Of particular note are the LEND (ranging from $300,000 to $1,255,878), nursing (ranging from $53,146 to $199,380), and nutrition (ranging from $99,140 to $299,070) categories. Grantees within a given priority respond to the same guidance, but clearly the training projects they develop vary in scope.

Resources Devoted to Trainees

As shown in Table 3, 690 trainees were supported by MCH Training Program funds in FY 1999. However, many more students are influenced by the Training Program than receive direct financial support from it. Two grants report no funded trainees in their budgets, allocating resources to faculty and administrative staff and supporting trainees through other means, such as endowments and other grants. For example, data from the American Association of University Affiliated Programs (AAUAP) indicate that over 698 long-term trainees were trained at LEND programs during FY 1999, whereas just 313 of these trainees received MCHB support.

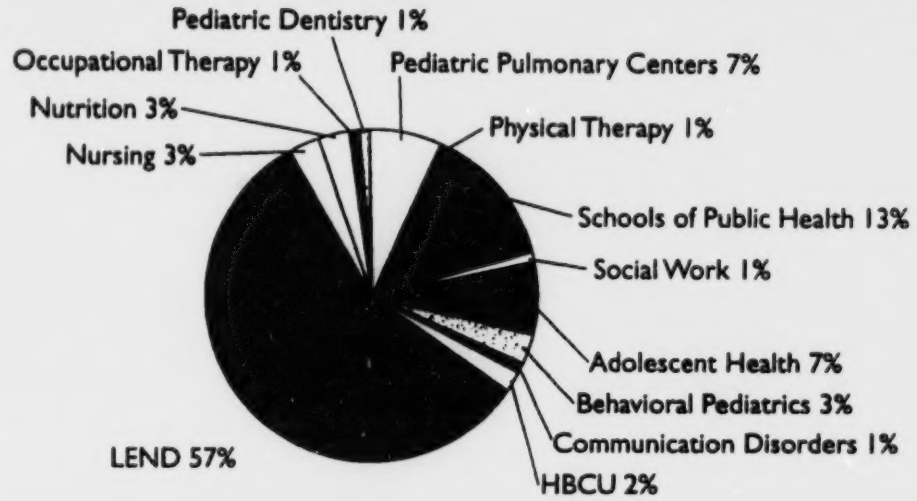
Table 1: Maternal and Child Health Bureau Long-Term Training Program Priorities, FY 1999

Priority	MCH Target Population(s) Children = ages 0 through 21	Disciplines Trained	No. of Projects	Priority Funding Total
Interdisciplinary Program Priorities				
LEAH	Adolescents	Physicians Nurses Social workers Nutritionists Psychologists	7	$2,380,650
LEND	Children with special health care needs, in particular, neurodevelopmental disabilities such as autism, cerebral palsy, mental retardation	Physicians Nurses Social workers Nutritionists Speech-language pathologists Audiologists Pediatric dentists Psychologists Occupational therapists Physical therapists Health administrators Parents of children with neurodevelopmental disabilities	35	$18,273,202
Pediatric Pulmonary Centers	Children with special health care needs, in particular with chronic respiratory diseases, including asthma	Physicians Nurses Nutritionists Pharmacists Respiratory care practitioners Social workers	7	$2,151,182
Schools of Public Health	Children Children with special health care needs Women	MCH public health professionals	13	$4,387,481
Unidisciplinary Program Priorities				
Behavioral Pediatrics	Children with special health care needs, in particular developmental and behavioral health issues	Pediatricians	9	$1,004,347

(continued on next page)

Table 1: Maternal and Child Health Bur[illegible] Training Program Priorities, FY 1999				
Priority	**MCH Target Population(s) Children = ages 0 through 21**	**Disciplines Trained**	**No. of Projects**	**Priority Funding Total**
Unidisciplinary Program Priorities *(continued)*				
Communication Disorders	Children with special health care needs, in particular speech and language issues	Speech-language pathologists Audiologists	3	$400,000
HBCU	Children Adolescents	Physicians Medical students College and high school students	4	$660,955
Nursing	Women Children Children with special health care needs	Nurses	6	$932,378
Nutrition	Children Children with special health care needs	Nutritionists Registered dietitians	6	$1,015,460
Occupational Therapy	Children with special health care needs	Occupational therapists	3	$398,227
Pediatric Dentistry	Children Children with special health care needs	Pediatric dentists	2	$357,813
Physical Therapy	Children with special health care needs	Physical therapists	3	$398,099
Social Work	Children with special health care needs	Social workers	3	$399,995
Grand Total			**101**	**$32,759,789**

Figure 3: Allocation of Training Program Funds Among Priorities, FY 1999



The funds apportioned to trainees vary dramatically, as shown in Table 3. For example, LEND grantees allocated 14 percent of the total budget to trainee support in FY 1999, while pediatric dentistry allocated 58 percent. Nevertheless, because of the size of the priority, nearly half of all directly supported MCH trainees were funded through LEND grants.

Resources Utilized for Faculty Leadership

As shown in Figure 4, just over half of the training project budgets are for faculty, with trainees receiving 21 percent of funds, and other expenses (e.g., administrative support and indirect costs) accounting for the remainder.

With regard to faculty support, some projects provide only travel funds for faculty to attend professional meetings, with the rest of the grant money allocated for student support, whereas other projects budget all the funds for faculty, providing none for student support. More commonly, there is a division of funds, with a portion going to both faculty and trainees.

The amount of direct financial support for faculty and the manner in which such support is apportioned is a mostly local decision, one that is largely dependent on the particular economic issues faced by individual grantees. However, some projects, in particular certain interdisciplinary ones (LEND, LEAH, SPH, PPC), have made this decision based on past guidance from MCHB that strongly encouraged financial support of faculty.

Some universities have sources of funds to support faculty and not trainees, whereas others may have funds for trainees but not for faculty. In some departments, faculty must be partially or largely self-supporting through grants; project directors in such settings recognize that junior faculty often require at least 2 or 3 years to achieve the ability to

Table 2: Median Awards by Priority Area, FY 1999			
Priority Category	**Median Grant Award**	**Lowest Grant Award**	**Highest Grant Award**
Interdisciplinary Program Priorities			
LEAH	$318,205	$294,362	$462,000
LEND	$450,000	$300,000	$1,255,878
Pediatric Pulmonary Centers	$303,790	$281,955	$346,353
Schools of Public Health	$349,950	$243,477	$377,505
Unidisciplinary Program Priorities			
Behavioral Pediatrics	$111,115	$110,485	$115,096
Communication Disorders	$133,333	$100,000	$166,667
HBCU	$166,076	$162,727	$166,076
Nursing	$194,234	$53,146	$199,380
Nutrition	$154,447	$99,140	$299,070
Occupational Therapy	$131,794	$126,027	$140,406
Pediatric Dentistry	$178,906	$171,904	$185,909
Physical Therapy	$125,805	$123,101	$149,193
Social Work	$123,000	$117,131	$159,864

secure funding, and they use the MCH funds to provide the time these young faculty members need. In other words, in some departments, the MCH funds are used to help both trainees and junior faculty become leaders.

"The grant provides the opportunity for junior faculty to become more effective and successful since it allows them to focus and not be pulled in so many directions."

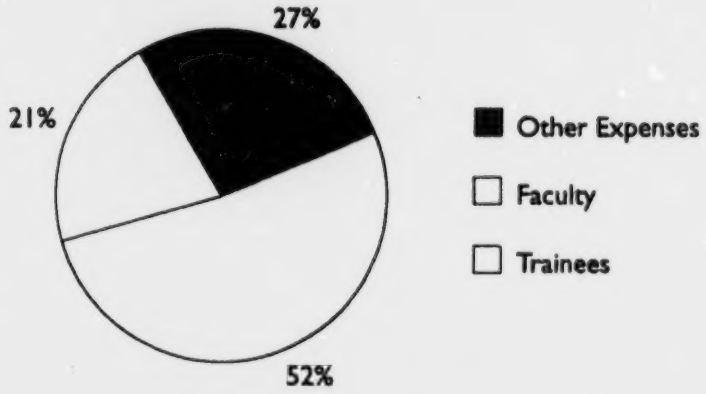
—Project director, LEAH

Table 3: Trainees Supported by MCH Training Grants, FY 1999			
Priority Category	**Percent Budget Devoted to Trainees**	**Total Number of Supported Trainees**	**Total Support for Trainees**
LEAH	32%	49	$762,278
LEND	14%	313	$2,440,983
Pediatric Pulmonary Centers	15%	44	$336,387
Schools of Public Health	27%	129	$1,164,761
Behavioral Pediatrics	56%	21	$558,963
Communication Disorders	51%	26	$202,346
HBCU	21%	not reported	$138,828
Nursing	28%	34	$220,415
Nutrition	20%	30	$260,271
Occupational Therapy	46%	11	$179,738
Pediatric Dentistry	58%	10	$206,342
Physical Therapy	42%	11	$160,695
Social Work	26%	12	$98,609
Grand Total		**690**	**$6,730,616**

In many universities, faculty must justify time spent on activities such as technical assistance or policy work, and by budgeting faculty time in the grant, this type of work can be supported. Departments that are largely funded by clinical income may use MCH Training Program funds to support faculty from certain disciplines that receive little or no clinical reimbursement, thereby ensuring an interdisciplinary training environment.

Table 4 shows the manner in which faculty funds were apportioned by each priority in FY 1999. The different priorities ranged from a low of 14 percent (pediatric dentistry) for faculty support to a high of 67 percent (PPCs). A total of 851 faculty members received at least some support through the MCH Training Program (210 full-time equivalents). In addition to supported faculty, projects reported that their universities provided significant in-kind fac-

Figure 4: Training Program Grantees' Budgets, FY 1999



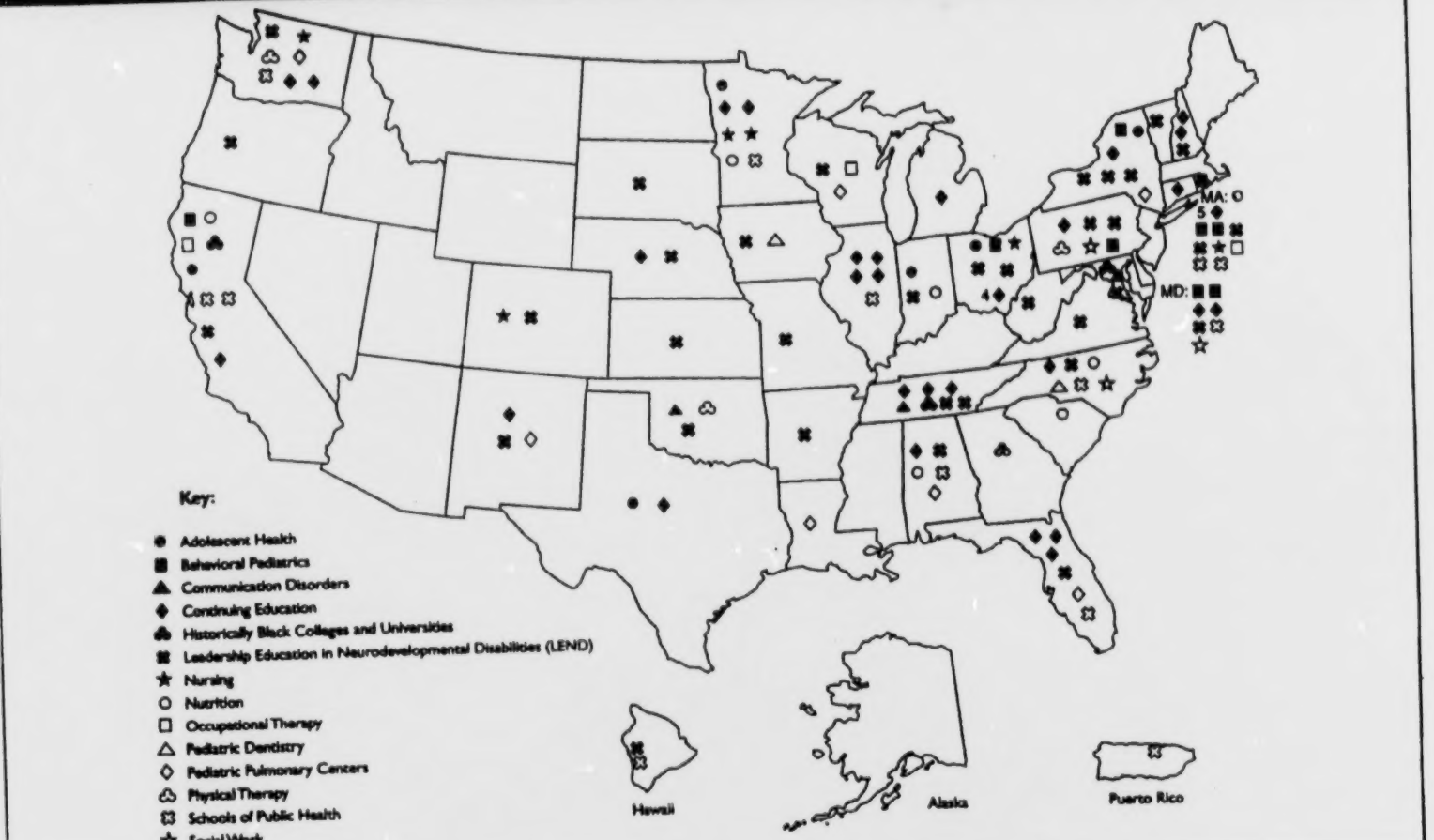
ulty contributions to the training projects, effectively increasing the faculty available to the Training Program by over 50 percent. (This may be an underreporting, as several directors of projects that were visited reported that they no longer report in-kind faculty because of onerous bureaucratic requirements within their universities.)

Distribution of MCH Training Program Grants

Training Program grants are not equally distributed geographically or by population density, as shown in Figure 5. In fact, 10 states account for 54 percent (n=60) of the long-term training grants, whereas 12 states have no grants. A high proportion of training grants are clustered in the northeast and mid-Atlantic states, whereas a relatively small proportion (34 percent) of grants are located in states west of the Mississippi River, and, of those, grants in California and Washington account for about a third (34 percent). This is due, in part, to the absence in some states of some of the necessary university infrastructure to apply for training grants; for example, there are no medical schools located in Wyoming, Idaho, or Montana. In order to address geographic disparity, some projects attempt to have a regional impact.

Table 4: Faculty Supported by MCH Training Grants, FY 1999						
Priority	**Percent of Budget Devoted to Faculty**	**Number of Faculty Supported (Partially or Fully)**	**Total Faculty Full-Time Equivalents Supported (A)**	**Number of In-Kind Faculty**	**Total In-Kind Full-Time Equivalents Supported (B)**	**Total Faculty Full-Time Equivalents (A + B)**
LEAH	48%	80	12.2	48	6.2	18.4
LEND	60%	481	132.9	287	49.2	182.1
Pediatric Pulmonary Centers	67%	55	18.2	68	4.4	22.6
Schools of Public Health	39%	84	22.1	83	24.2	46.3
Behavioral Pediatrics	33%	39	4.2	50	15.3	19.5
Communic-ation Dis-orders	34%	11	2.1	3	0.3	2.4
HBCU	38%	15	2.5	1	0.2	2.7
Nursing	39%	27	4.4	10	0.6	5.0
Nutrition	42%	15	4.4	18	5.0	9.4
Occupa-tional Therapy	38%	9	2.2	9	0.7	2.9
Pediatric Dentistry	14%	6	0.4	17	2.5	2.9
Physical Therapy	52%	15	2.7	11	3.8	6.5
Social Work	42%	14	1.9	9	0.4	2.3
Grand Total		**851**	**210**	**614**	**112.5**	**322.5**

Figure 5: MCHB Training Grant Sites, FY 1999



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Summary

A statistical overview of the MCH Training Program shows that the LEND priority is the largest single category within the grant portfolio, both in terms of the number of grants and the median dollar amount of individual grants. The behavioral pediatrics category has the smallest median grant award. The LEND priority also supports the greatest number of faculty and produces the largest number of trainees. The range of funding varies widely both within specific priorities and across the training portfolio as a whole. Just over half of training project budgets are allocated to faculty support, whereas about 20 percent of grant funds support trainees. The interdisciplinary projects devote a much higher proportion of grant funds to faculty support than do the unidisciplinary projects, potentially owing to the larger number of disciplines that must be represented on the faculty. Training grants are not equally distributed geographically, with a large number of grants disproportionately located on the East Coast. Lack of university infrastructure may be a contributing factor. Some projects do try to reach beyond the borders of their state to have a regional impact.

3

Training for Leadership

A major goal of the MCH Training Program is leadership training. This focus is consistent with recommendations of the influential Institute of Medicine (IOM) report *The Future of Public Health*,[5] which has helped to shape the nation's approach to public health over the last 13 years.

However, despite the IOM report and other documents that attempt to define leadership, the term remains ambiguous. MCHB sponsored two meetings of training directors in the late 1980s to discuss and help define leadership.[10] Conference participants struggled with the concept, ultimately concluding that "Leadership is an ongoing, dynamic process, not a goal or a definable position one can achieve." In particular, conference participants resisted the notion that leadership can be defined by an individual's position within an hierarchical organization.

Conference participants then attempted to define how to measure leadership, and in particular how to assess whether or not MCH graduates actually exhibited leadership. Several indicators were posited as signs of leadership, most of which reflected academic success (e.g., having been published, receipt of funded grants, teaching, participation on grant review panels). However, an important consensus reached by conference participants was that "No easy method exists to directly relate a person's contributions to her or his participation in the MCH Training Program. Such a conclusion appears extremely difficult to reach and would require complex experimental designs and extensive resources."

This evaluation did not attempt to assess whether or not particular projects are successful in creating leaders; rather it examined the ways in which the concept of training for leadership is operationalized by grantees. In particular, it explored how projects define leadership, how they train for it, and how they evaluate their success.

Differences in Leadership Training Among Projects

Projects differ in four key ways with respect to leadership training: (1) the degree to which they explicitly stress training for leadership; (2) the extent to which they emphasize policy work and academic accomplishment as key to leadership versus more clinical ways of developing leadership; (3) the methods they use in training for leadership; and (4) the groups selected to receive leadership training.

The Emphasis on Leadership Training

The administrators of many graduate programs conceive their mission to be that of training

national leaders. They expect that their graduates will become university professors, conduct meaningful research, attain high-level positions, and contribute to their professions in myriad ways. The MCH stipend in universities with such a mission becomes primarily an inducement to recruit good students into what is, in reality, an existing leadership training program; with the MCH support, that program becomes more focused on women and children. MCH trainees may receive very little, if anything, that is special with respect to leadership training at such institutions, and there may be little or no explicit emphasis on leadership, even though a strong argument could be made that these trainees are, in fact, being groomed for leadership along with all the other students in the program.

On the other hand, project administrators in some programs that attempt to train all students for leadership believe that the MCH program requires them to provide supplemental activities that go beyond what their students already receive. In these projects, a special seminar may be added, policy work more strongly emphasized, or field opportunities developed to allow trainees to practice leadership skills.

MCH training project directors in academic departments that do not strive for universal leadership training may develop a special leadership program as a result of the training grant. For example, they may enhance the department's focus on research for MCH trainees or engage trainees in policy work. A few projects, however, simply redefine leadership to correspond to their existing academic or clinical programs: A leader is someone who does excellent work, whether that is chairing a meeting or treating a patient. In such projects, leadership training consists of the same qualities that define high-caliber graduate training in general.

"Students are trained to be well-educated, to think critically, and build on previous work; they are being trained more to be effective than to be leaders."

—Faculty member, School of Public Health

Policy, Academic, and Clinical Leadership

Project directors define leadership as encompassing everything from changing the national system of health delivery for children to providing first-rate clinical care to achieving academic success through teaching and research. Projects that emphasize high-quality clinical care as the most important aspect of leadership often provide little or no content on policy. Other projects stress advocacy and policy work as key components of leadership, and this is reflected in their curricula. Highly academic centers typically equate leadership with success in research endeavors.

"A leader is a capable practitioner who knows how to seek out the services that children need and an agent of change who can affect policy and implement system change."

—Faculty member, LEND

Faculty in one project point out that academic and community leadership require different skill sets which sometimes conflict. Faculty attempt to make the differences explicit in order to promote and help ensure success in both venues. One faculty member commented, "Academic leadership requires

self-promotion and pressing your own agenda, while community leadership means letting the community define the agenda."

> *"I feel that part of being a leader is conveying the excitement I feel about MCH nutrition."*
> —Current student, Nutrition

Essentially, all the projects strive to motivate trainees by imparting a vision that can sustain them for years to come. A goal of such motivation is to create agents of change who, throughout their lives, will strive to secure a better future for children and their families.

Methods of Leadership Training

Because each project defines the concept of leadership differently, and because the academic settings of the projects are so varied, it is not surprising that the educational programs related to leadership are diverse. For example, some projects provide a weekly or monthly leadership seminar that includes segments on such topics as grant writing, presentation skills, coalition building, and management. Others have no formal course work but may attempt to integrate leadership concepts throughout the curriculum: One project fosters excellence in teaching skills by having trainees orally evaluate faculty lectures immediately after the presentation. Projects that have defined leadership as encompassing research typically assign each trainee a research mentor and require trainees to participate in one or more research methods courses. Some projects are quite innovative: One has developed a formal mentoring program through which faculty work with trainees to develop goals for achieving academic tenure and require trainees to visit other universities to observe a variety of academic administrative systems and styles.

> *"The leadership concentration focuses on oral and written skills, including presenting at professional meetings, grant writing, and evaluation."*
> —Faculty member, Nursing

Many projects provide trainees with opportunities to practice leadership by making presentations to community groups or developing policy position papers, and others require trainees to complete a leadership portfolio that describes the variety of leadership activities they have experienced in the program. Internships and field experiences also provide leadership opportunities.

Groups Selected for Leadership Training

Recipients of training include high school students, master's-level students, doctoral candidates, residents and fellows in medicine, residents in pediatric dentistry, certificate students (including bachelor's- or master's-level individuals currently working in the field), and "mini-fellows" (physicians receiving special training, but not as intensive or as lengthy as that found in traditional fellowships). Moreover, most of the interdisciplinary projects (e.g., LEND, PPC, LEAH) train individuals who spend varying amounts of time in the program, including medical students and residents doing clinical rotations, other short-term trainees (less than 40 hours), intermediate-term trainees (40–300 hours), and long-term trainees (more than 300 hours). In many programs, students from outside the department take MCH courses. Most project directors do not expect that all of these groups of trainees will become leaders; thus, training clearly has other goals besides leadership.

Projects that provide training for high school students hope to influence young people to select a health care-related career. Certificate programs are designed either to encourage practicing professionals to return to school for additional education and/or to provide important information useful in these individuals' current employment. The programs also provide a mechanism to foster ongoing working relationships with local public health agencies. Both high school and certificate programs are used to increase ethnic diversity. One project with a minifellowship program views the program as a way to infuse MCH-related issues and values into the work of midcareer physicians, to enhance the hospital's and university's cultural competency, and to foster institution-wide improvements to children's services through the work of the fellows.

Clinical training programs with different levels of trainees (e.g., short-, intermediate-, and long-term) obviously have a greater impact on those trainees who are in the program the longest, and it is typically these trainees who are expected to become leaders. Other, different advantages accrue from the shorter-term training, such as exposure to the interdisciplinary approach, education about policy issues related to women and children, and improved clinical skills for treating children. One project director, however, questions the value of investing in short-term training; this director commented that although it is possible to teach knowledge in a short time, instilling MCH values takes longer.

Overall, even though leadership is defined in multiple ways, it is clear from the site visits that the goal of preparing long-term trainees for leadership is one that the majority of grantees take quite seriously. Some struggle with defining leadership but most have developed a concept of leadership that is meaningful to them and that they have used in redefining their educational programs in ways that are sometimes innovative and highly creative and that most trainees appear to value.

Aspects of Training for Leadership

Recruitment

Leadership training begins with recruitment. Grantees emphasize that they have the ability to attract excellent trainees, both because of the stipends and the quality of their training programs. One could argue that the individuals who are recruited would likely become leaders in any event, and that a leadership training program is thus somewhat superfluous. It may be true that the trainees selected for many of the projects—often the top graduates in their specialties—would likely become leaders in their general field, but without the MCH Training Program, the field that they choose might not be MCH-related. Almost all grantees contend that recruitment "captures" young people who are bright and who have already demonstrated great potential, and ensures that their talents are used to benefit children and the broader MCH community. A few projects emphasize their ability to recruit a diverse group of trainees and thus to promote cultural diversity and ethnic visibility in particular fields where these may be lacking.

"I discovered that the MCH program was the best program at the school. I like the structure and the curriculum. Initially, I was thinking of going into hospital administration/management. But when I took a few courses in MCH and met the professors, I realized that I was interested in MCH."

—Former student, School of Public Health

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Policy and Community Action

Great variation exists among training projects in the extent to which they foster and encourage policy and community work, and in the manner in which they do so. Some projects instruct trainees on how to be effective in working in collaboration with professional associations, legislative bodies, and local organizations. As a result, grantees have successfully improved health care services for children, both locally and nationally. For example, trainees have advocated for new community services, many of which have become institutionalized. Many projects consciously emphasize a dual mission: to teach young people while engaging them in activities that effect important system and/or policy changes to benefit women and children.

> *"Without the grant, fellows would not have the time to engage in community advocacy. All their time would have to be devoted to clinical work."*
> —Project director, Behavioral Pediatrics

> *"We are helping people to recognize that it is possible to provide services in the community, that it doesn't have to be done in a hospital. We are trying to see how to link the medical center with the medical home; that's in practice here."*
> —Faculty member, LEND

Skills-Based Training

Clinical projects teach trainees the skills needed to practice effectively. But MCH training projects also seek to teach other skills. Certain skills are required for effective advocacy (e.g., how to communicate effectively or how to work with the media). Other skills are for leadership (e.g., how to lead a group, manage a budget, or raise money). Some skills are competencies, such as those developed by the Association of Teachers of Maternal and Child Health and by individual projects, or the ones for nutrition training developed by the Association of Graduate Programs in Public Health Nutrition and which are now used nationally. And finally, some skills are designed to facilitate success in a career (e.g., how to work within an academic setting or make a PowerPoint presentation).

> *"The program takes a 'see-do-teach' mode of learning. You aren't just studying from a textbook. You are physically doing things. Then, when you can explain it to others, you really understand the material."*
> —Current student, Historically Black Colleges and Universities

Providing a Mentor

Essentially all projects claim that faculty act as mentors to trainees. However, the term *mentor* is as elastic as that of leadership. In some projects, a faculty mentor becomes so close to a trainee that he or she knows the trainee very well and is able to tailor the educational program to the special needs of the trainee. In other cases, the term mentor is used to define a role that is closer to that of guidance counselor—that is, the mentor is someone who ensures that a student takes appropriate courses. In most MCH projects, the role of a mentor lies somewhere in between. Due to the variability across projects in the way in which mentoring is defined and provided, it is difficult to generalize about its impact on the program as a whole. However, trainees almost always appreciate any mentoring that they receive, and they believe that mentoring relationships greatly enhance their learning. Moreover, the extent to which trainees are satisfied with their educational program appears to be related to the depth of the mentoring they receive.

"My mentor appreciates the experience that I had before I came [to the program]. We work as partners in planning my experience here, including what I can bring [to the program]."
—Current student, LEND

Assessing Project Success in Training Leaders

Several project directors stated that an evaluation of the MCH Training Program would require an assessment of the success of the various projects in actually creating leaders. That is, because leadership training is the primary goal of the program, leaders are the outcome of interest. However, given the varied definitions of leadership and the subjective nature of most of those definitions, measuring attainment of leadership by former trainees presents great difficulties.

A further challenge is that trainees do not emerge as leaders immediately upon completion of the training; rather, according to faculty, it takes most trainees about 10 years to actually accomplish those activities that define someone as a leader in a field. However, tracking former students for 10 years is extremely difficult for projects. Moreover, projects are constantly changing and evolving, and assessing leadership in a cohort of persons who completed a training program 10 years earlier may say nothing about a current program. And finally, there are undoubtedly many intervening variables over a 10-year period, and crediting (or blaming) the training projects for success (or failure) would seem a dubious proposition at best.

For these and other reasons, not all projects attempt to assess the accomplishments of their graduates. Some do, however, typically through administration of a survey of their graduates, either annually or every 5 years. Many of the projects report low response rates, some as low as 8 percent, citing the difficulty in maintaining current contact information for trainees who may have moved several times over the course of the years. Some projects have been slightly more successful in tracking their alumni.

"We use an annual survey. The response rate varies, but it is about 65 percent for first-year graduates."
—Project director, School of Public Health

In their continuation applications, grantees are asked to provide short descriptions of several former trainees. These vignettes provide anecdotal evidence for the success of the projects, but they

obviously are insufficient to document the overall success of a project in creating leaders.

The MCHB-sponsored PPCs developed and conducted a Pediatric Pulmonary Leadership Training Outcomes Survey during 1996–98. Surveys were sent to 418 graduates from all seven programs, including physicians, nurses, nutritionists, social workers, respiratory care practitioners, and physical therapists; 274 (66 percent) of those surveyed responded. Survey results indicated that most PPC graduates have served MCH populations (82 percent) and are members of an interdisciplinary health care team (82 percent). Almost all (92 percent) have provided training to professional and lay audiences about the special needs of the MCH population. Leadership activities included developing guidelines (68 percent), conducting strategic planning (46 percent), and participating in program evaluation (48 percent). Graduates have been officers or committee chairpersons in 7 national, 18 state, and 27 local professional associations.[20] These findings suggest that the PPCs have been quite successful in training national leaders in MCH.

Findings from Interviews with Current Trainees

As a part of this study, each training project that was site visited invited its current trainees to meet as a group with the evaluation team to discuss the academic program. The vast majority of those interviewed were extremely positive about their training experiences. A few provided candid critiques, with suggestions for improvement.

> *"The stipend provides external validation that you have the potential to be a leader."*
> —Current student, Social Work

An interesting finding was the impact of these projects on self-efficacy. For some students, being selected to participate in a leadership training program in and of itself was enough to initiate changes in self-perception. Moreover, for some, the honor of being selected brings with it an expectation of high-level accomplishment. Explicit statements by faculty that trainees are expected to be leaders, perhaps paired with specific course work focused on leadership (however it is defined), reinforce the message of the selection process and appear to lead to a stronger sense of self-confidence and to higher aspirations among a large number of trainees.

> *"As part of the LEAH program, we had several training opportunities specifically designed to encourage our leadership potential. More importantly than these individual instructions, I felt that the program and specifically the faculty worked hard to instill confidence in our abilities as professionals, which often translates into more productive leadership skills."*
> —Current student, LEAH

The impact of the projects on self-efficacy is apparent when comparing the responses of students who are new to a training project with those of students who have been in the training project for 2 or 3 years; the students with more time in the project are much more likely to say that they can envision themselves as future leaders than are the new students. Many continuing students also say that they did not have a perception of themselves as potential leaders in their field upon entry into the program. In other words, many bright trainees enter these traineeships with no personal goals of leadership but, as a result of their training, come to view themselves as having

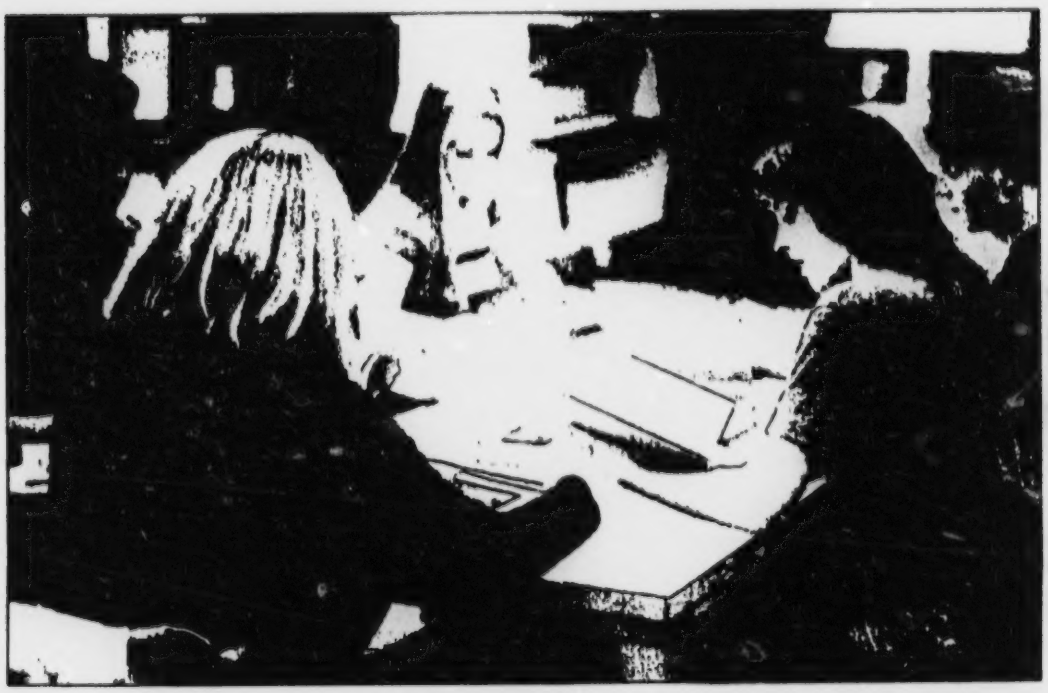
both the responsibility and the capability to lead. They appear to transform their ideas of themselves, to develop a belief that they can make a difference in the lives of women and children. The strong sense of self-efficacy that many trainees develop through the MCH Training Program may well be one of the major factors that permit some program graduates to become national leaders in their fields. Trainees clearly value the training they have received in the interdisciplinary approach to care provision. The opportunity to work with professionals from a wide variety of disciplines has helped trainees to understand the role of other professionals and to see a perspective other than their own.

"My career goals have changed due to the program. I want a community leadership role when I leave the program."
—Current student, Pediatric Pulmonary Center

One LEAH trainee described the impact of interdisciplinary training on his career in this way: "The advantage I have over my colleagues is a knowledge and comfort level with medicine, social work, and other disciplines that I will have to work with in my professional career. Specific treatments have been defined for me that many of my colleagues do not utilize, such as the necessity of involving physicians and dieticians in psychological treatment of eating disorder cases."

"I have had the opportunity to give a lecture, which I had not done before. I appreciated the confidence that others had in my skills."
—Current student, Occupational Therapy

MCH trainees also expand their visions of leadership. For example, many who enter a program with the goal of university-level teaching—and who



may view that as a form of leadership—come to incorporate research and advocacy into their definitions of leadership and into their personal ambitions. Others state that their training has helped them to view leadership as incorporating aspects of their daily work, such as successfully leading a treatment team.

> *"Pediatric dentistry is relatively new to the LEND training program at the University of Washington. I've learned about the role of developmental pediatrics. I've added assessment skills since participating in the program."*
> —Current student, LEND

Not surprisingly, students highly value the financial support that they receive. Some would be unable to participate in a training program at all without such support. Others believe that the impact of the training would be diminished if they did not have funding, because of the time they would need to devote to paid work as opposed to learning. Some projects support students with assistantships rather than grants, and these assistantships enable trainees to work closely with professors on real-world projects, providing valuable experience.

> *"The stipend increased my ability to take risks and challenges and be involved in things that I otherwise couldn't because I don't have to work."*
> —Current student, School of Public Health

Many projects include field work as a part of the curriculum, and trainees find these for the most part to be an extremely valuable aspect of their training. Many trainees state that these experiences reinforce their views of themselves as future leaders.

> *"Seminars and field experiences complement one another nicely and expand our knowledge in different ways."*
> —Current student, Nutrition

Findings from Interviews with Former Trainees

Of the 110 former trainees who completed the interview, 65 percent (n=72) graduated in 1995 and 35 percent (n=38) in 1990. Information detailing additional characteristics of the respondents is provided in Appendix C.

> *"Faculty in the program believed in what they were doing; they weren't just providing a service. They involved students in every aspect. I never felt like a student—I always felt like a member of the team."*
> —Former student, Pediatric Pulmonary Center

As shown in Figure 6, 78 percent (n=86) of the former trainees who were interviewed are still practicing in the MCH field. Most respondents reported significant changes in their careers as a result of the training, including new jobs or new responsibilities; only 6 percent (n=7) reported no significant change in their jobs following the training (see Figure 7). The great majority (80 percent) of former trainees attributed job changes to the training they obtained (see Figure 8).

Former trainees stated that the faculty in their respective programs were highly knowledgeable, and respondents considered this a major strength of the

Figure 6. Former Trainees Still Practicing in MCH Field

"Are you currently providing services or administering a program that serves the MCH population?" (n=110)

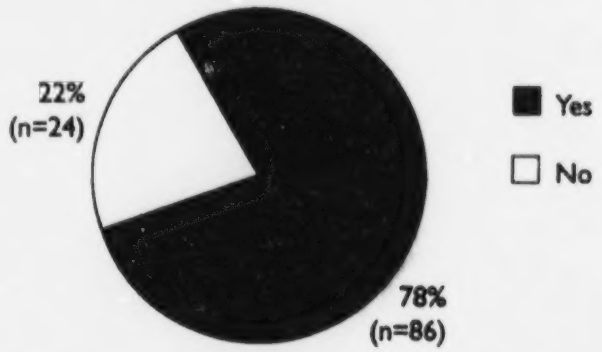
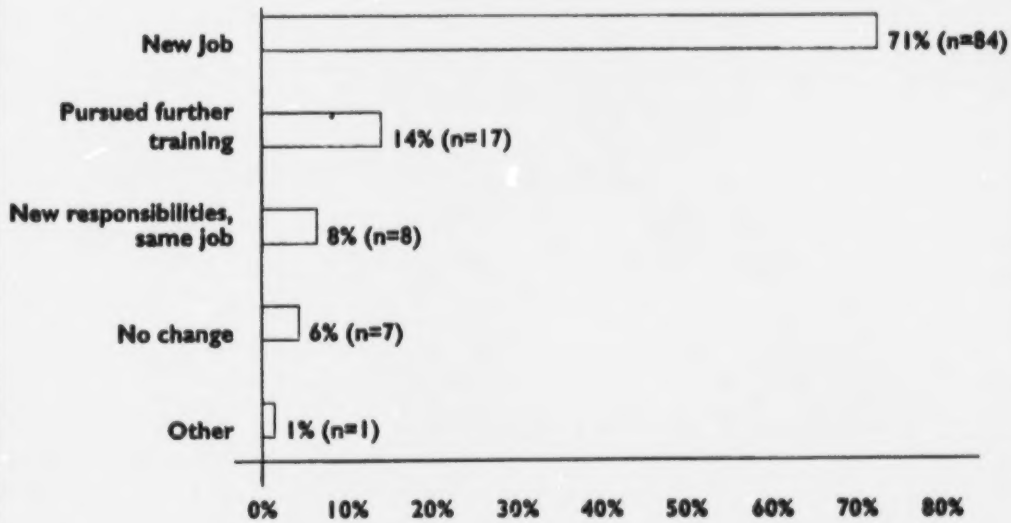


Figure 7: Job Change After Completing MCH Training

"How did your work change within the first year following the training?"* (n=118)



Former trainees gave multiple responses

Figure 8: Job Change Attributed to MCH Training

"Do you attribute this change (in job) to the MCH Training Program?" (n=104)

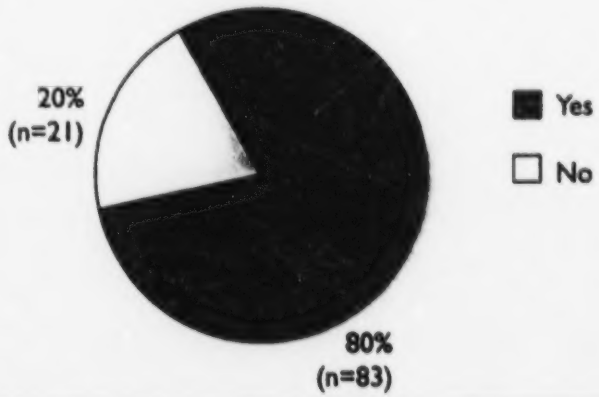


Figure 9: Former Trainees Who Had a Faculty Mentor

"Did you feel that you had a mentoring relationship with any of the faculty members in your program?" (n=110)

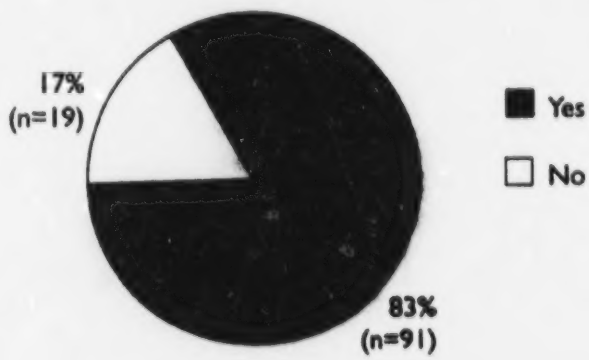
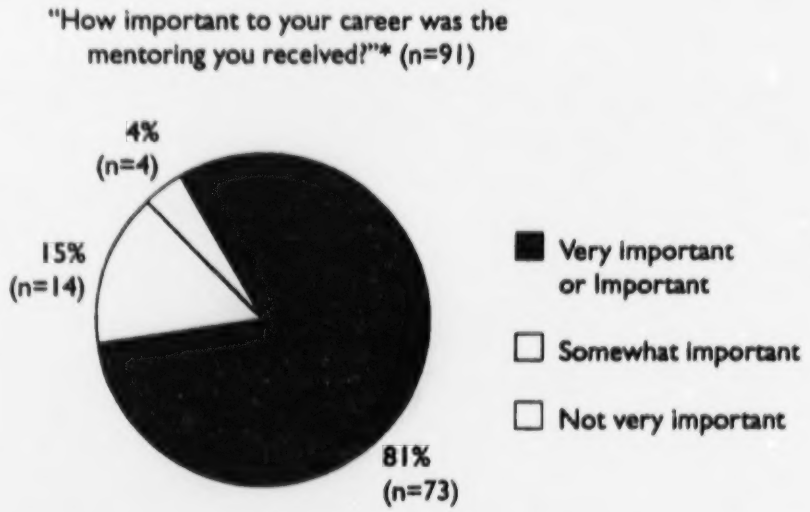


Figure 10: Importance of Faculty Mentoring to Former Trainees' Careers



**Among former trainees who had a faculty mentor*

training projects. Faculty expertise in the field of public health in general, and maternal and child health specifically, was cited as particularly valuable. A large majority of respondents (83 percent; n=91) reported that they had had a faculty mentor (see Figure 9), and they perceived the mentoring to be quite important to their careers and education (see Figure 10). Trainees appreciated the easy access to faculty and the personal encouragement they received from faculty. Sixty-eight percent of former trainees who received mentoring stated that the mentoring continued after they left the training program (see Figure 11).

> ***"Without the mentoring, my most significant achievement to date—an article published in a peer-reviewed journal—would not have been possible."***
> —Former student, School of Public Health

Survey respondents were provided with a list of possible strengths and asked to indicate which of these strengths applied to their respective training projects. A majority of former trainees indicated that the curriculum was quite strong (60 percent; n=66). In addition, those in programs with a clinical training component rated that aspect as a strength (60 percent; n=46). Those who trained in an interdisciplinary model particularly appreciated their training, and many spoke eloquently about the benefits of learning how to treat a child holistically and how to incorporate a multiplicity of perspectives—those of various health professionals as well as the family—into treatment, leading to a higher quality of services provided. These trainees not only gained skills, but experienced attitudinal changes as well, learning to understand the complex and multifaceted needs of children and the

roles of the various other disciplines also providing care to children.

> *"In traditional classroom settings, you don't have the whole team communicating with you. You read about it but don't really experience it. It was one of the greatest things to have this experience. I don't think I could have gotten it any place else."*
> —Former student, Nutrition

In addition to identifying the strengths of their projects, former trainees also identified areas in which the projects could have met their needs better. Nearly one quarter of the respondents (n=26) said they would have benefited from more administrative training, such as managing staff, developing budgets, and dealing with workplace issues. Although many touted the research component as a program strength, others (18 percent; n=20) felt that research training could have been stronger. Similarly, although the majority of the former trainees interviewed were pleased with the mentoring they received, a small percent (15 percent; n=16) stated they would have benefited from additional one-on-one time with faculty. A few former trainees (16 percent; n=18) would have preferred more attention to policy; suggestions for strengthening this aspect of the project included having guest lecturers and developing joint courses with a school of public policy.

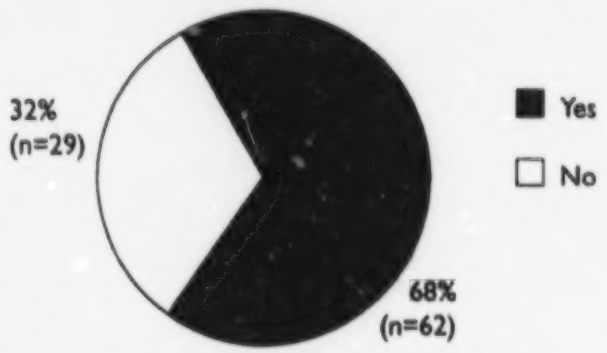
Former trainees were provided with a list of topics and asked if the Training Program had enhanced their knowledge in any of the topic areas. Some of the topics in which trainees most consistently reported increased knowledge are those that MCHB is especially interested in promoting: knowledge of MCH programs and policies (82 percent; n=90); interdisciplinary services (78 percent; n=90); community-based programs (70 percent; n=77); advocacy (66 percent; n=73); population-based public health practice (65 percent; n=72); and family-centered health practice (56 percent; n=62). Although cultural competence was not included as one of the potential checkbox responses, two former trainees stated that the program had enhanced their knowledge in the area of cultural competence.

Former trainees were also asked about new skills that they had learned as a result of the Training Program. The most frequently mentioned skill was critical thinking (78 percent; n=84), whereas 71 percent (n=78) stated that the program had improved their research skills, and 63 percent (n=69) stated that the program had enhanced their policy and advocacy skills. Without prompting from the interviewer, four trainees stated that the program had in general improved their leadership skills.

> *"This training program accurately reflected the complexity that exists in the field. And I had resources to draw on when I left the program. I especially appreciate this now that I am working with new therapists who haven't had this background. I realize how much I learned in a very short period of time."*
> *—Former student, Occupational Therapy*

A strong majority of former trainees (64 percent; n=71) considered themselves leaders in their field (see Figure 12). Many of the respondents who did not consider themselves leaders cited current familial obligations as the reason. As shown in Figure 13, a higher percentage of trainees who graduated in 1990 (76 percent; n=29) viewed themselves as leaders than those who graduated in 1995 (58 percent; n=42). This is consistent with the common-sense

Figure 11: Former Trainees Who Received Continued Mentoring After Training



*Among former trainees who had a faculty mentor

notion that achieving leadership takes time. In fact, several trainees noted that they had not been in the field long enough and did not yet have the experience to be considered a leader, but several commented that they see themselves as being on a "leadership trajectory."

> *"The way the whole thing comes together creates a context where trainees and fellows really get to become leaders in MCH with a lot of mentorship and guidance—everything from developmental screening skills to researching policies and guidelines to working on an interdisciplinary team."*
>
> —Former student, LEND

Those trainees who saw themselves as leaders cited as evidence activities such as teaching, program development and administration, and policy work and advocacy through service on state advisory committees, on task forces, and with professional associations. These activities mirror the goals of the Training Program. Figure 14 provides examples of leadership activities mentioned by former trainees.

Consistent with the findings of interviews with current trainees, former trainees stated that the Training Program altered their thinking about leadership and what they, as individuals, could and should accomplish. One former LEND trainee noted, "I consider myself a leader primarily because my notion of what a leader is has changed, from that of 'positional' leadership to understanding that leadership is an experience that comes from within oneself. The Training Program fostered this kind of thinking."

Figure 12: Former Trainees Who C... Leaders in the Field

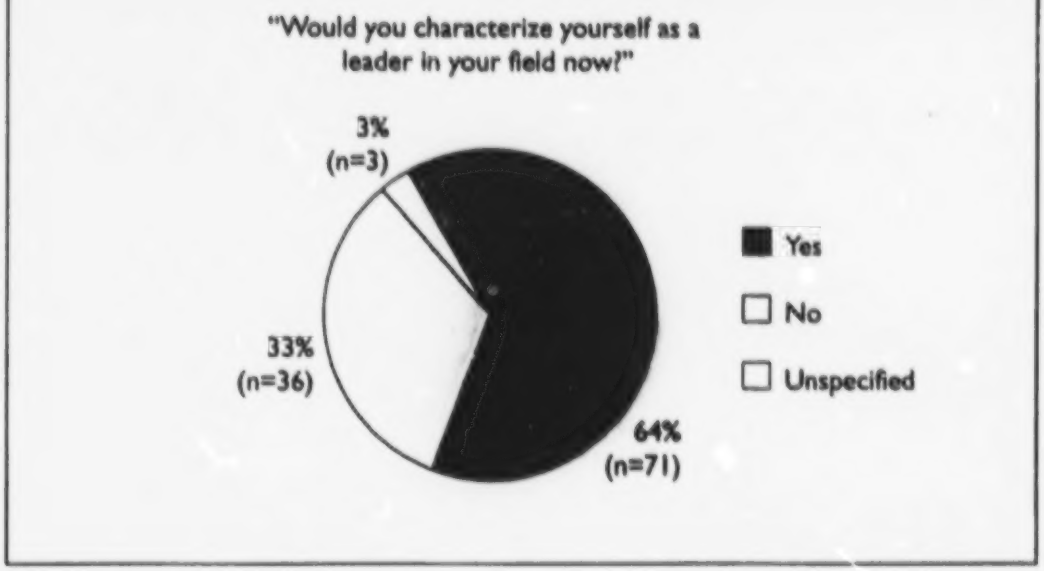


Figure 13: Leadership by ...

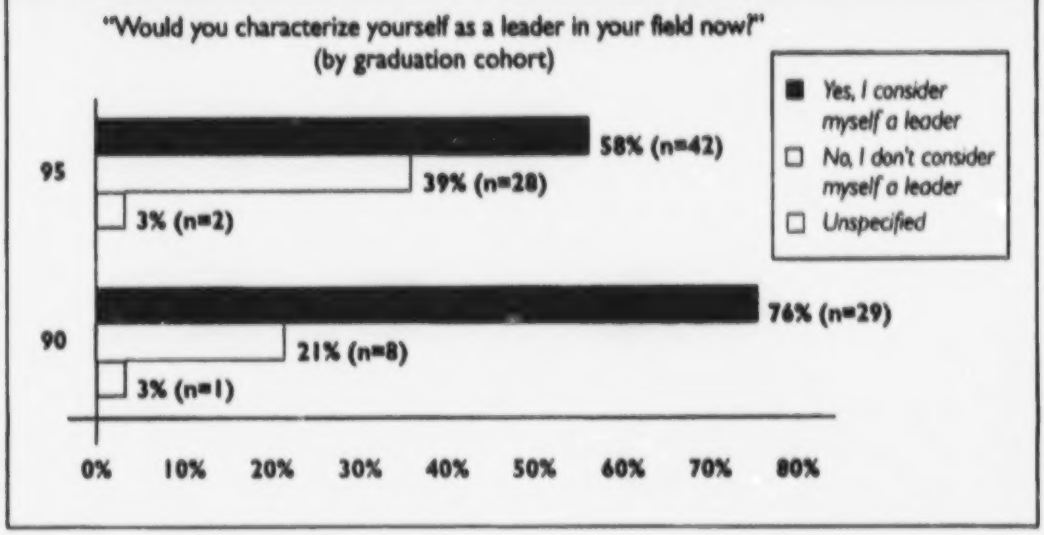


Figure 14: Examples of Leadership Activities of Former Trainees

Publications

- Authoring book chapters

Teaching/Curriculum Development

- Developing a training program for dietitians in MCH
- Teaching continuing education courses in neonatal resuscitation
- Conducting training workshops for health education
- Teaching continuing medical education courses nationwide
- Designing and establishing a curriculum for pediatric residents
- Establishing a fellowship in developmental and behavioral pediatrics
- Supervising psychiatry trainees
- Serving on the local medical school curriculum committee

Involvement with Professional Associations

- Participating on an American Physical Therapy Association task force
- Serving as a delegate to the Alabama Nurses Association
- Serving 8 years on the state perinatal board
- Holding a leadership position in the Massachusetts Nurses Association
- Developing the specialty board exam for the American Dietetic Association

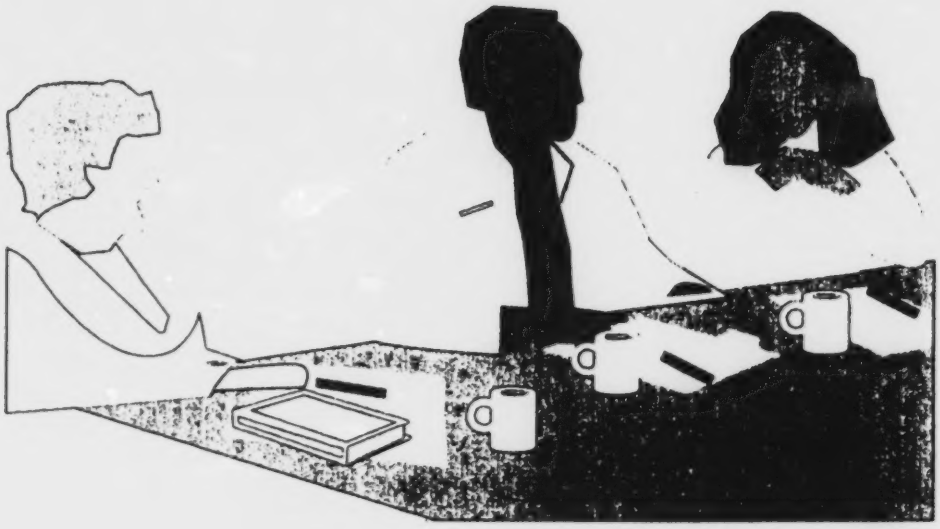
Policy/Advocacy

- Serving on numerous community action groups
- Developing an interdisciplinary child abuse and neglect team
- Serving on an advisory group to the state Medicaid program to initiate funding for augmentative/alternative communication devices
- Participating in a group reviewing proposed regulations on the Individuals with Disabilities Education Act
- Working as part of a state team to design and implement training for special education professionals
- Serving as chair of the Surgeon General's Conference on Children and Oral Health
- Developing a new program and related office in oral health at the University of Washington

In sum, these interviews suggest that the training projects are quite successful in creating leaders (as defined by the former trainees themselves and exemplified in the activities they are pursuing); that most individuals trained through the program remain in the field; and that former trainees believe their mentoring experiences were quite helpful in directing their careers.

Summary

One Training Program project director commented somewhat plaintively that "it would help to have a definition of leadership." An elusive concept, training for leadership nevertheless has real benefits: It provides helpful skills to many trainees, enhancing their ability to become effective more quickly; it provides some trainees with a positive sense of self-efficacy that may well contribute to success; and it includes fairly intensive guidance to many trainees through mentoring relationships that foster success. Most projects have intelligently operationalized the term leadership in ways that have tended to enhance trainees' learning and to foster qualities that define leadership.



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Supporting Faculty in Leadership Roles

Unlike most federal training programs, the MCH Training Program allows projects to use grant funds to support faculty as well as trainees. In part, this is because the MCH Training Program views the mandate of training for leadership to include empowering faculty to function as leaders. It is unlikely that a project could teach its trainees to become leaders if the faculty were not themselves leaders in the field and able to model leadership. Moreover, by supporting key faculty in a field, MCHB is able to influence these persons and the departments and associations to which they belong. In addition, the program's emphasis on policy work and its public health orientation encourage and support faculty to advocate on behalf of children, something that academics do not routinely do.

The evaluation of the MCH Training Program examined differences in the extent to which projects foster faculty leadership, the styles of leadership the projects encourage, and the impact of faculty leadership on the universities where the faculty are employed.

> *"There are things that I would never have stretched to do without this grant, such as serving as president of the Alabama Chapter of the National Association of Nurse Practitioners and serving in leadership positions in other national groups."*
> —Faculty member, Pediatric Pulmonary Center

The MCH Training Program Model of Leadership Versus the University Model of Scholarship

Many project directors and faculty report that the MCH Training Program model of leadership is at odds with their university's model. MCH training grants require faculty to provide consultation, technical assistance, and continuing education, and to develop relationships with public health agencies and policymakers; the grants also encourage applied research. Many universities encourage research, especially basic research, to the exclusion of other activities.[21] Provision of consultation and technical assistance may be viewed as detracting from research and teaching, and is only tolerated at best. Faculty who are primarily or fully grant-supported must track their time and cannot engage in activities for which they are not funded (except on their own time, of course).

Faculty in many training projects describe feeling under considerable pressure, especially if they are employed by universities that require them to

generate their salaries through grants. Some faculty describe 60- to 70-hour work weeks as standard. If faculty devote a large percentage of time to seeking out grant opportunities and developing competitive applications, other activities such as working with students or local communities suffer. Faculty supported by an MCH Training Program grant, however, report spending more time with students and trainees, thereby providing trainees with a better quality of education; these faculty also use their expertise to improve services for women and children in their communities and, through their policy work, around the nation. Because of its outreach requirements and the funding available to faculty for activities that are not traditionally supported, MCH Training Program grants alter the pattern of activities of faculty in fairly fundamental ways.

"As a new faculty member, the grant supported me as I developed new courses. Grant support also affords us the time to provide intensive student support that we could not do if we were primarily supported by research funds."

—Faculty member, School of Public Health

Collaboration and the Interdisciplinary Approach

The Carnegie Foundation report, *Scholarship Reconsidered,*[21] emphasizes the important role of "the scholarship of integration." Interdisciplinary work is defined in this important report as key to the integration of knowledge and to an understanding of the implications of research findings in real-world settings. The MCH Training Program strongly encourages such interdisciplinary collaboration.

"The MCH department provides a safe harbor and promotes dialogue around issues that are not possible elsewhere. As a result, when faculty sit on university committees, they feel that they can firmly represent the MCH viewpoint."

—Faculty member, School of Public Health

Faculty in MCH training projects state that they derive an important benefit from the program's grants due to the collaboration the program fosters. The Training Program's grants increase the number of faculty within a department who focus on MCH issues; that is, the grants help to nourish a critical mass of faculty interested in MCH. Faculty learn from and support one another and in this way are able to change their departments. Many grantees report that the MCH Training Program grant has led to greater attention to women and children throughout the department, not just in the classes specifically designated for learning about MCH.

"The nutrition, nursing, psychology, and social work faculty are new at [the university] because of the LEAH program. They have benefited by exposure to clinical populations, research resources, and medical expertise. They would not have had access to these had they not been part of the LEAH program. As a result of this exposure, they have become more competitive grant applicants, and better researchers, clinicians, and teachers."

—Dean, LEAH

Projects with an interdisciplinary faculty have additional opportunities for collaboration. The interdisciplinary projects report that, without the MCH Training Program grant, they would have far fewer disciplines involved in training; most report that they would probably revert to unidisciplinary training. Faculty in interdisciplinary programs believe that students receive a better, more complete education. Faculty, too, benefit from being a part of the interdisciplinary team, partly because of the learning that takes place among faculty members from various disciplines. Faculty also report that being a part of an interdisciplinary model assists them in obtaining grant funds from other sources, because funders like this model.

Fostering Change Within Universities

Many faculty supported by the MCH Training Program participate in university governance through committee work. Deans, in particular, cite the positive influence of MCH Training Program faculty on their colleagues through university committee work. According to these respondents, MCH Training Program faculty are persistent in advocating for many of the core MCH values (e.g., cultural competency and interdisciplinary training) and in helping their colleagues remember the needs of women and children.

"In developing the strategic plan for the university, we tried to focus on breaking even financially, but the MCH faculty offered some proposals to help us remember why we're here. They're almost our conscience in ways that are important."

—Provost, LEND

Sometimes such advocacy results in institution-wide changes; for example, at a few universities, courses developed as a result of an MCH training project have been made available to the entire student body. In other cases, the MCH project provides an avenue for dissemination of information and diffusion of innovations.

"Recently, the Occupational Therapy Department was instrumental in ensuring that MCH issues such as cultural competence, family-centered care, prevention and wellness, and a focus on children were addressed in the new undergraduate curriculum for the entire college."

—Department chair, Occupational Therapy

"A number of projects have developed joint degree programs with other departments within their universities, and many cross-list their courses;

for example, at the University of Tennessee, the nutrition interdisciplinary seminar is cross-listed with courses in public health, nutrition, nursing, and social work. These cooperative ventures expand the number of students who have exposure to MCH content, and they also provide an avenue of influence to the collaborating departments. Guest lectures and grand rounds by MCH faculty are other examples cited frequently by grantees as ways that they expand the MCH influence.

The access to information and resources provided through the grant has led to a general diffusion of MCH information throughout the curriculum. For example, Bright Futures materials have recently been incorporated in the master's-level entry courses as part of a curriculum revision process, even though master's-level students are not supported by the grant. Prior to this revision, the curriculum had been primarily disability-focused."

—Department chair, Occupational Therapy

The Need for MCH Faculty Leaders

"It's hard to get faculty. The preponderance of faculty here are between 56 and 65 years of age. We have a concern about upcoming retirements."

—Project director, Pediatric Dentistry

Some of the MCH training projects focus primarily on educating individuals to become faculty members. Many project directors believe that doctoral-level training should be even more strongly emphasized in the MCH Training Program than it is now. In some fields, the professoriate is aging, and faculty are starting to retire with no one trained and available to take their places. Universities have already experienced difficulty filling certain types of positions with persons who are appropriately trained.

"Nationally, only about 20 U.S. citizens are trained through pediatric pulmonary fellowships each year, and that is not enough to keep up with retirements. There are not enough faculty to fill the available positions."

—Project director, Pediatric Pulmonary Center

A related issue is that some geographic regions have difficulty attracting top faculty from elsewhere. Professors must be trained locally, and doctoral programs are especially needed.

"We have a small faculty and it's exhausting. We have the potential for burnout. We're advertising now, but there are ten other similar positions being advertised around the country. There are not enough doctorally prepared faculty with the right collection of skills. Our salary is competitive nationally, but there are some people who don't want to come here. The lack of doctoral programs is a real problem."

—Project director, School of Public Health

Summary

The support of faculty through MCH Training Program grants has far-reaching results. The grants enable faculty to undertake activities that can help them become strong leaders in their fields, both locally and nationally, and in their universities. As leaders, they are able to promote MCH values and foster service delivery changes that improve the health of women and children. These activities are often in conflict with their faculty roles within their universities, but most faculty have made efforts to overcome tensions and better serve the MCH field.

5

Contributing to Advances in the Field

Although the primary mission of the MCH Training Program is to train a new generation of MCH leaders and clinicians, it also fosters improvements in the health of women and children through other means. This evaluation examined the ways in which the MCH Training Program nurtures new professional subspecialties; influences professional associations; develops innovations in treatment and services; serves as a voice for women and children—within universities, with legislative bodies and other policymakers, and with the public; and encourages research, especially applied research.

Nurturing New Professional Subspecialties

The history of the MCH Training Program includes examples of new subspecialties that have clearly arisen as a result of MCH support, such as pediatric cardiology and adolescent health. MCH support has been pivotal for other subspecialties, including developmental/behavioral pediatrics and neurodevelopmental disabilities. MCH training projects produce trainees who form the key cadre of clinicians for such subspecialties, and project directors typically lead the movement to establish a subspecialty and define its sphere. For example, pediatricians from LEND programs collaborated to develop the subspecialty in pediatric neurodevelopmental disabilities. Additionally, the director of the LEND grant at the University of Alabama at Birmingham currently serves as the chair of the examination committee for the subspecialty certification; in that capacity, he will have great power in determining the content of national neurodevelopmental pediatrics training.

Sometimes, rather than support a subspecialty, MCH training grants help to integrate MCH issues into professional training. The requirement that all pediatricians have a residency rotation in behavioral pediatrics is attributed by one project director to MCH support. The curriculum modules developed by the social work program at the University of Maryland at Baltimore provide another example of integration of MCH into an entire field. The University of Maryland at Baltimore modules have been disseminated to all schools of social work in the United States for use in required courses.

Influencing Professional Associations

MCH training grant faculty are encouraged to work within their professional associations on behalf of women and children. Many faculty become active in their associations by holding offices or chairing committees or sections, whereas

others participate through giving presentations and participating in poster sessions at annual conferences. Such work leads to a greater appreciation of the needs of women and children, and helps associations address issues that need attention (e.g., family-centered care for children with special health care needs). In some professional associations, grantees constitute a critical mass of like-minded individuals who work together on policy and program issues to the benefit of women and children; they provide mutual support and diverse expertise, leading to opportunities for even greater influence. A few examples of the current leadership activities of MCH training grant faculty are shown in Figure 15.

In addition to serving in leadership positions in professional associations, MCH training grant recipients work in other capacities in those associations, for example, as journal editors, conference presenters, and as developers and disseminators of curriculum materials.

The Maternal and Child Health Bureau (MCHB) has occasionally capitalized on the leadership of MCH Training Program grant-supported faculty within professional associations by providing funding to a grantee to convene a group specifically to address a particular issue. For example, the American Academy of Pediatrics and the American Public Health Association were jointly supported to develop new child care standards, which were completed in 1992.

Developing Innovations in Treatment and Services

The MCH Training Program promotes quality improvements in health services for women and children, such as through the development and

Figure 15: Examples of Recent Leadership Activities of MCH Training Program Grant Faculty

- Member, Ethics Board of American College of Obstetricians and Gynecologists
- President, Association of Teachers of Maternal and Child Health
- President, Graduate/Postgraduate Section, American Association of Dental Schools
- Board member, Academy of Eating Disorders
- Member of Governing Council, American Public Health Association
- Member of Executive Council, Society for Developmental and Behavioral Pediatrics
- Advisor, American Certified Nurse Midwives' MCH Provider Partnerships
- Member, Board of the Perinatal Reproductive Health Association
- Past president, American Dietetic Association
- Consultant, North Carolina State Board General Anesthesia Panel for Pediatric Dentistry
- Task Force chair, American Medical Association, "Strategies to Improve Training of Primary Care Physicians in Providing Adolescent Preventive Health Services"
- Chair, Subspecialty Board of Adolescent Medicine, American Board of Pediatrics (responsible for board-certification examination in adolescent medicine)
- Director, State-Wide School-Based Sealant Program
- Director, American Board of Psychiatry and Neurology

promulgation of clinical practice guidelines. In addition, it fosters new services in communities. Although the development of new services is not an explicit goal of the MCH Training Program, the site visit team was impressed with the extent and range of Training Program contributions in this area. In particular, projects that train fellows appeared to be prolific in the number of community service programs initiated and creative in the innovations incorporated into those programs. Figure 16 presents a few examples of recent innovations in treatment and services supported through MCH training grants.

Serving as a Voice for Children

MCH training grant recipients are powerful voices for children. They bring the latest research and knowledge into both local and national decision-making settings, and they serve as passionate child advocates, seeking to improve the health of

Figure 16: Examples of Treatment and Service Innovations

- Development of guidelines for the home care of children with tracheotomies (collaborative project of four PPCs: University of Alabama at Birmingham, Tulane University, University of Florida, and University of Wisconsin-Madison)
- Establishment of a new adolescent health clinic in an urban hospital (Charles R. Drew University for Medicine and Science, HBCU)
- Development of an evidence-based positioning protocol for infants in the neonatal intensive care unit (NICU) (University of Washington, Physical Therapy)
- Organization of a conference for managed care administrators on the equipment needs of children with special health care needs, leading to an easing of restrictions and delays in securing such equipment (Oregon Health Sciences University, LEND)
- Establishment of a legal advocacy program at an inner-city hospital to assist families in accessing resources and services, such as housing and school-based health services (Boston University, Behavioral Pediatrics)
- Development and dissemination of clinical practice guidelines on attention-deficit/hyperactivity disorder (University of Washington, Nursing)
- Establishment of statewide teams to work with and train local health care providers so that children with special health care needs have a medical home (University of Washington, LEND)
- Establishment of a mechanism (i.e., sports medicine clinics) to recruit into health care services those minority, inner-city males who might not otherwise receive preseason examinations, medical care, or other health screening services (Baylor College of Medicine, LEAH)
- Development of new NICU guidelines for the Baltimore Infant and Toddler Program (University of Maryland at Baltimore, Behavioral Pediatrics)
- Development of evidence-based nutrition guidelines (University of Washington, LEND)
- Establishment of an asthma clinic for inner-city, high-risk children (University of Washington, PPC; University of Alabama at Birmingham, PPC)

the nation's children. The emphasis in the Training Program on policy both enables and promotes such advocacy. Grantees have made contributions that have had significant, long-term effects; for example, staff from the LEND program at the University of Alabama at Birmingham worked with parents, advocates, and congressional staff in assisting to develop the legislative language for the Individuals with Disabilities Act (IDEA) of 1986, a law that continues to change the way in which persons with special needs are treated in our society. Grantees have also served on national policy development groups, such as the Institute of Medicine Forum on Adolescence (University of California at San Francisco, LEAH). Many grantees have worked in collaboration with state legislative bodies; for example, by providing expert testimony at the request of legislators. Figure 17 provides a few examples of policy work of grantees.

Encouraging Research

The MCH Training Program does not directly fund research, but it does encourage research in several ways. First, in its support of interdisciplinary projects, the program enables some departments to expand their range of expertise, which often makes the departments more competitive in applying for research grants. In doctoral programs, most of the fellowship programs, and some master's-level programs, trainees must complete a research project; the results of these projects increase the knowledge base in a given field. Such projects also train students in research methodology, leading to a new generation of researchers.

Projects examined in this evaluation that had a strong research component, especially if the focus was on applied research, frequently also had the strongest technical assistance and continuing education components. Research ensures that faculty are at the forefront of their fields, and the grant encourages faculty to convey research findings to community, state, and national audiences.

One measure of research accomplishment is publications. In FY 1999, the total number of faculty and trainee publications directly supported by the MCH Training Program was 1,671; 967 of these were journal articles, 61 were books, and 225 were book chapters, as shown in Figure 18. It is noteworthy that so many journal articles and books were published in just 1 year; this high publication rate demonstrates exceptional productivity, suggesting that supported faculty are indeed leaders in their fields.

The category "other publications" in Figure 18 includes materials developed for lay audiences, documenting the extent to which Training Program faculty and trainees disseminate information to a broad audience. Some of the publications of grant-supported faculty are seminal in their fields. For example, the first textbook on adolescent medicine was edited by a grantee.

Fostering Diversity

Most MCH training projects address cultural competency in the educational curriculum; for some, it is a central component of the curriculum, and a few have developed materials on cultural competency that they have shared widely, both among MCH training projects and other groups.

Even though projects state that they address the topic of cultural competence, the survey of former trainees suggests that, at least in the past, cultural competency has not been a major strength of the projects. When asked to identify strengths of their

Figure 17: Examples of Policy Work of Grantees

- Coalition building, leading to universal newborn hearing screening in Maryland (University of Maryland at Baltimore, Behavioral Pediatrics)
- Participation and co-leadership of the Alabama Asthma Consortium, a statewide multiagency effort to devise a statewide asthma plan (University of Alabama at Birmingham, PPC)
- Organization of "Social Venture Partners," designed to focus the philanthropic activities of biotechnology and computer millionaires on the pressing needs of children (University of Washington, School of Public Health)
- Provision of expert testimony on lead poisoning to the state legislature (Kennedy Krieger Institute/Johns Hopkins University, LEND)
- Preparation and presentation of a policy paper on the efficacy of pediatric occupational therapy to California's Early and Periodic Screening, Diagnostic and Treatment (EPSDT) oversight committee, leading to inclusion of occupational therapy services in the state EPSDT program (University of Southern California, Occupational Therapy)
- Development of language for district court regulations defining medical records for adoptions (University of Maryland at Baltimore, Social Work)
- Sponsorship of community-based forums and consultation with teachers, leading to attitudinal shifts in the city of Birmingham on the mainstreaming of children with special health care needs (University of Alabama at Birmingham, LEND)
- Provision of technical assistance to the state legislature as the legislature drafted a bill (and passed a law) on respite care (Kennedy Krieger Institute/Johns Hopkins University, LEND)
- Leadership on state task force on Ritalin and psychotropic drug use in children, and testimony at state legislature on implementation of task force recommendations (University of Maryland at Baltimore, Behavioral Pediatrics)
- Collaboration with District of Columbia Office of Early Intervention, educating pediatricians and family practitioners on identification of children with developmental disabilities and services available to these children (Howard University, HBCU)
- Preparation and dissemination of a report on the financial benefits of nutrition services for children with special health care needs (University of Washington, LEND)

training projects, only 2 of the 110 respondents volunteered that their training projects had enhanced their knowledge of cultural competence.

Like many other professional training programs, most MCH training projects are not particularly successful in recruiting and retaining trainees or faculty from diverse racial and ethnic backgrounds. Of those projects that reported the race/ethnicity of their trainees in continuation reports (421 trainees out of the total of 709 for all projects in FY 1999), 79 percent of trainees were white and the rest were minorities. However, this figure probably overstates the percentage of minority trainees because projects with poor cultural representation may have been less likely to report the race/ethnicity of their trainees. In addition, some of the minority trainees who were reported were actually international students.

Project directors who have been less successful at minority recruitment cite several reasons:

- The limited number of minority faculty are in great demand, and the projects cannot offer a competitive salary.
- It is difficult to attract minority trainees to some fields because those fields are poorly paid relative to others that require a comparable educational commitment.
- The pool of trainees of diverse heritage from applicable undergraduate- or master's-level programs is limited.
- Minority trainees tend to require a larger stipend than the MCH training grants allow, because these students often have fewer resources.

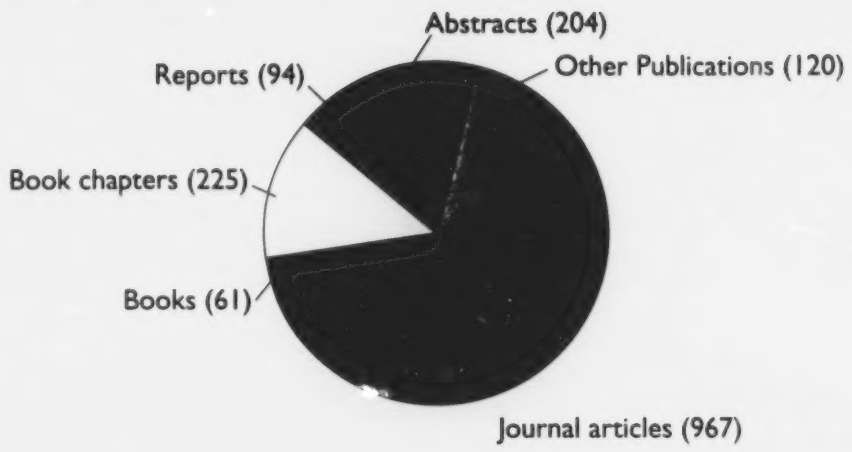
On the other hand, some projects have worked hard and been successful at recruiting faculty and trainees from diverse backgrounds. Two projects (Howard University and Drew University for Medicine and Science) have developed high school programs to introduce minority students to various health professions in an effort to encourage them to study science in college and consider a health field as a career. A few universities have similar programs, but not as a part of the MCH training grant; both Baylor College of Medicine and the University of Alabama at Birmingham, for example, sponsor summer high school programs for minority students. Such programs reflect an understanding of the need to interest students in health careers very early and a commitment to building a pipeline of future trainees of diverse heritage.

"The LEAH program at the Baylor College of Medicine has increased the percent of minority candidates from 13 percent in its first year of funding to 38 percent in its fourth year of funding."

—Project director, LEAH

One approach to minority trainee recruitment used by some projects is to develop close relation-

Figure 18: Publications Produced by Supported Faculty and Trainees, FY 1999



ships with local HBCUs, Hispanic-serving institutions, and tribal colleges and universities. Project personnel visit these schools and meet with career counselors, participate in career fairs, and provide written information about their programs. In some cases, faculty give guest lectures at the institution, or joint faculty appointments are established. Another approach that several projects have employed is to develop short-term undergraduate practicum placements which are used to recruit minority students into graduate programs.

A few MCH training projects have worked to establish relationships with practicing minority professionals, with one goal being to encourage the professionals to return to school for graduate training. Another successful approach is an MCH certificate program, such as the one at the School of Public Health at Boston University, in which practitioners can take a limited number of courses to enhance their knowledge while obtaining the certificate. This contact provides the faculty an opportunity to support minority practitioners and encourage them to enter a graduate program. The behavioral pediatrics program at Boston University has developed a special fellowship program for midcareer minority professionals as a way to enhance services to minority children and to ensure greater cultural competency within the training project. Additionally, one faculty member founded and developed a new organization—the New England Regional Nurse Midwives of Color—to assist nurse midwives. MCH faculty provide support to the organization through seminars on advancing one's nursing career, individual mentoring of nursing students to help them complete their programs, and encouragement for nurse midwives of color to become active in public health.

The communication disorders project at Howard University views its mission as the training of racially and ethnically diverse faculty in order to correct the existing shortage of doctoral-trained individuals in the field of communication disorders. The nutrition project at the University of Minnesota also focuses on improving diversity among faculty; it has developed a relationship with a historically black university in which a doctoral-level student or junior faculty member from Morgan State University spends 3 months at the University of Minnesota to receive nutrition training that would not otherwise be available; upon return to Morgan State University, the individual continues to be mentored by faculty at the University of Minnesota.

One interviewee commented, "It is critical for universities to work on minority recruitment, but it is pointless to do it just enough to fail." By this the interviewee suggested that half-hearted efforts at minority recruitment will not be successful.

A few project administrators who have been relatively successful in their minority recruitment stress the importance of attitudes; they have found that a true commitment to diversity and to ensuring

success on the part of minority trainees and faculty have led to real improvements in recruitment.

> ***"We have the highest proportion of African-American students of any school of public health in the U.S. mainland. Minority students tell their friends that the environment in the department is supportive to them and a good place to obtain a degree."***
>
> —Faculty member, School of Public Health

The commitment of the university as a whole to diversity is also a factor in a project's success at minority recruitment. Some universities are not as welcoming to minority students or faculty and, in fact, this is the complaint of some trainees who were interviewed for this evaluation. They stated they had been subjected to hurtful comments and that more support for minority students is needed at the university. Where lack of diversity is a university-wide problem, projects must work with greater diligence to recruit and retain faculty and trainees from diverse backgrounds and advocate for university-wide reform.

Summary

MCH Training Program faculty and former trainees have led many of the nation's efforts to improve the health of women and children. Leadership within professional associations has been a primary stimulus for change. These strong associations often define quality of care and are key to effective national advocacy. Faculty and trainees have also improved the health of women and children through community work that has created new health services and improved existing ones. The research that faculty and trainees conduct provides the information base on which to build better systems of care and make improvements in clinical care. Many projects have developed innovative and creative approaches to enhancing racial and ethnic diversity, but achieving diversity remains a challenge for a majority of MCH training projects.

6

Promoting Collaboration

Technical Assistance, Consultation, and Continuing Education

From its earliest days in the Children's Bureau, the MCH Training Program has encouraged cross-fertilization among academia, field practitioners, and policymakers. The vision is of services and policymaking enhanced by research and reasoned analysis, and of research and teaching informed by an appreciation for the challenges of health care providers and the needs of the population being served. Thus, collaboration is a two-way street, benefiting both faculty and the community. Universities may also strengthen relationships with local communities and secure additional training experiences for students.

This evaluation examined the primary methods that grantees use to meet the requirement for collaboration, namely technical assistance, consultation, continuing education, and the formation of collaborative relationships with colleagues (in the grantees' own universities and in others) and with Title V agencies.

Training grantees vary in their approaches to technical assistance, consultation, and continuing education; in the extent to which they devote time and other resources to these activities; and even in the ways that they define them. Many grantees make no clear distinction among these programmatic elements, and tend to lump them together. For this evaluation, continuing education was defined as a formal course or lecture for which continuing education units (CEUs) or other educational credits are available to participants, and technical assistance as the provision of technical advice covering a range of issues, including program development, clinical services, program evaluation, and policy and guidelines formulation. Consultation is a category of technical assistance, but connotes more of a collaborative relationship. Because technical assistance and continuing education are grant requirements, all grantees address them in some manner, and many have quite impressive accomplishments.

Continuing education ranges from the organization of major national and regional conferences for leaders in a profession to specialized courses on various topics for Title V staff. It may include community-based training or scientific presentations at professional meetings. Technical assistance embraces information dissemination to the lay public through radio programs and Web-based strategies, research updates for professionals through newsletters, distance learning, and formation and maintenance of listservs. Technical assistance also includes consultation and program development work with community service programs, schools, and parent organi-

zations; service on local, state, or national committees and task forces; and collaboration with Title V programs on needs assessments and evaluations.

Individual grantees report providing technical assistance, consultation, and continuing education to persons numbering from the hundreds to the thousands each year. Because no common definition of technical assistance or continuing education has been provided to grantees, widely differing types of activities are included in the annual reports. Thus, the evaluation team has little confidence in the reliability of the numbers reported for technical assistance and continuing education. Nevertheless, a considerable amount of this work does occur, regardless of how it is defined. Some of the work is highly intensive, with recipients receiving technical assistance and/or continuing education over a period of weeks or months. Other types of technical assistance or continuing education are one-time activities. It appeared to the evaluation team that schools of public health tend to provide more technical assistance to Title V agencies than do other priorities, whereas the clinical programs tend to provide technical assistance and continuing education to practitioners locally and regionally.

The degree of effort devoted to technical assistance and continuing education also varies among grantees. In some cases, technical assistance and continuing education activities are central components of a project, with clear and impressive outcomes, whereas in other projects, these activities represent a minor aspect of the project. Figure 19 provides a few examples of the technical assistance and continuing education activities of grantees, showing their range and diversity.

One aspect of technical assistance and consultation mentioned by several grantees as quite important is relationship-building. Grantees commented that technical assistance is most successful when trust has been established, and the long-term nature of many grants makes it possible for faculty to develop ongoing personal relationships that enhance the chances for effective collaboration.

Although grantees provide an impressive amount of technical assistance and continuing education, many find that competing priorities combined with the extensive time required for these activities either limit what they can do or lead to a sense of fragmentation and tension. Direct costs are an additional problem.

Time Constraints. If an MCH training project is successful in developing a reputation for expertise, and if faculty seek out opportunities to provide that expertise, the project can easily become deluged with requests for assistance. At that point, the project must establish some limits.

"The volume of requests is 20-fold of what can be done, especially in evaluation. The problem is the depth of need in the community."

—Faculty member, LEAH

Of particular concern to faculty are the opportunity costs of their time. Although essentially all faculty acknowledge the importance of technical assistance and continuing education, and a majority find such work intrinsically enjoyable and rewarding, faculty also state that these activities divert time from other work that is strongly encouraged or required by their universities, such as research or activities that may generate more income. Some faculty state that they feel overwhelmed with the expectations that are placed on

Figure 19: Examples of Technical Assistance, Consultation, and Continuing Education

- Needs assessment for Title V Block Grant application (University of Alabama at Birmingham, School of Public Health)
- Provision of continuing education courses on evaluation and needs assessment to Title V staff (Boston University, School of Public Health)
- Publication of an electronic newsletter, distributed quarterly to MCH agencies, professionals, advocates, and legislators via a listserv and also available on the University of Minnesota School of Public Health's Web site (University of Minnesota, School of Public Health, Nutrition)
- Provision of annual region-based workshops on topics of special interest to local physical therapists, such as "Strategies for Early Intervention" (University of Washington, Physical Therapy)
- Provision of 2-day workshops for community pediatricians focused on family intervention as a way to enhance practice (University of California at San Francisco, Behavioral Pediatrics)
- Assistance in the promotion of Head Start in Massachusetts, including development of a new Early Head Start program for children ages 0 to 3 (Boston University, Behavioral Pediatrics)
- Assistance in the writing and research of a new teen health magazine, published by the Department of Health through the Title V program (Baylor College of Medicine, LEAH)
- Training for participants in the Baltimore City Infants and Toddlers Program on writing individual service plans that are family centered (Kennedy Krieger Institute/Johns Hopkins University, LEND)
- Development of a mentoring program for nursing teams in the area of maternity care at 12 fertility centers across the country (Boston University, Nursing)
- Consultation with two national committees regarding practice parameters for autism. As a result, a resource guide for all primary care providers in the county was produced, and intervention guidelines are in development. (University of North Carolina at Chapel Hill, LEND)

them—to provide quality teaching and student mentoring, work with the community and professional associations, conduct research, and provide clinical services, all while generating sufficient income to cover some or all of their salaries. Other faculty, however, emphasize that because the grant pays for faculty time, and because technical assistance and continuing education are required components of the grant, they enjoy some protected time that enables them to engage in technical assistance and continuing education that their departments or universities would otherwise discourage.

> *"Technical assistance comes at a cost. We're committed to technical assistance and to teaching, so the cost is to research. Service is valued by the university, but not as much as research. Technical assistance does not generate the overhead that the university likes, such as from an NIH grant. As we strive to increase our research activities, less time will be available for technical assistance and perhaps for teaching."*
>
> —Faculty member, School of Public Health

Direct Costs. The direct costs of providing technical assistance and continuing education can sometimes be considerable. These costs may include room rental charges, printing, and travel. The methods of covering direct costs vary greatly among grantees. In some cases, the grant covers all the costs of the activity—from faculty time to providing coffee breaks for workshop or conference participants. In other cases, the grant provides the motivation to seek out opportunities for technical assistance or continuing education, but the activities themselves are funded in other ways (e.g., through contracts or registration fees). Some grantees combine methods, using the grant for some of the costs but supplementing with other funding sources. A few grantees expressed concern related to a perceived directive from MCHB to engage in distance learning projects. They pointed out that certain distance learning methods, such as those requiring satellite uplink, are quite expensive and there are no easy ways to recoup such direct costs.

"Our grant does not directly support CE. However, I encourage faculty to seek funds from other sources in order to fulfill the CE requirements of the MCH training grant. Without the MCH grant, faculty would not pursue such funding."

—Project director, School of Public Health

Collaboration Across Projects and with Nonfunded Universities

MCHB supports annual meetings for some priority categories, providing grantees an opportunity to share strategies and learn from each other. Typically, MCHB provides supplementary funding to one of the grantees to support the costs of the meeting, and the grantees work together to plan the program. Those groups that regularly meet together find the experience extremely valuable, although because the grants must be recompeted every 5 years, and because their colleagues are likely to be their toughest competitors, some project directors fear putting themselves at a disadvantage by sharing too much. Thus, the competitive grant cycle sometimes operates as a disincentive to collaboration.

The PPCs exemplify one of the most successful cross-project collaborations. The seven grantees worked as a group over 3 years to conduct an assessment of PPC graduates, resulting in a national report. They have shared their annual progress reports to ensure that each is fully informed about the others' activities in order to facilitate borrowing of good ideas, and they have engaged in joint continuing education projects and quality improvement activities. Four PPC projects worked together to develop clinical practice guidelines for pediatric tracheotomy, which were published by the American Thoracic Society; the projects are in the process of developing a plan to disseminate the guidelines.

"It has been beneficial to collaborate with the other six PPCs. It has forced us to have a larger focus to our work and to deal more effectively with medically fragile children. We e-mail one another with questions and issues."

—Faculty member, Pediatric Pulmonary Center

Behavioral pediatrics grantees also work collaboratively. For example, at the annual grantee meeting, fellows present research that is critiqued by fac-

ulty from across all projects. Mentoring relationships among fellows and faculty from other sites have emerged from these meetings. Over the past 2 years the LEND projects have developed a draft self-assessment instrument, which they will be able to use to reflect upon and enhance their programs. This tool has been pilot tested and will be made available in 2001.

A different form of collaboration sometimes occurs when there are multiple MCH training grants at one institution. For example, the University of Washington currently has five MCH training grants in different fields. The five grant projects have developed ways to support each other (e.g., through reciprocal clinical placements for trainees) and to collaborate on mutually beneficial activities (e.g., a common leadership training seminar, joint research, and joint regional technical assistance). When projects are able to establish collaborations of this type, there appears to be a value added to MCH: a greater university-wide impact, a faster dispersal of new ideas (e.g., on ways to recruit minority students), and the benefit of shared resources. Some universities with multiple grants that were visited through this evaluation were not as successful at bridging departmental and other barriers in order to collaborate.

A few projects expand their influence locally or regionally by establishing working relationships with other, nonfunded universities. For example, faculty sometimes hold joint appointments at the university that houses the MCH training grant and at a different university in the same city or region. Other projects develop joint degree programs, such as the clinically based programs that encourage (or in some cases, require) fellows to obtain an M.P.H. degree through a collaborative arrangement with another university. Figure 20 provides four examples of collaborations developed by grantees.

A final form of collaboration is that of consultation provided to other, nonfunded universities. This occurs in a variety of ways; some of the consultation is relatively passive, such as sharing information on MCH innovations at meetings or on Web sites. Other times, it is intensive and one-on-one. Examples are provided in Figure 21.

Collaboration with Title V Programs

One of the most uneven forms of collaboration among grantees is with state Title V programs. Some MCH training projects and Title V offices have established strong relationships, leading to a variety of collaborative activities, whereas others have not succeeded in establishing a relationship of any kind. Universities and Title V offices with strong collaborative relationships describe the relationships as mutually productive and valuable: The Title V offices receive state-of-the-art assistance while the MCH training projects have the opportunity to influence policy and also to develop a better understanding of the issues confronting practitioners. There are several reasons for the variance that exists:

- Both Title V programs and MCH training projects are frequently unaware of the possibilities for collaboration. Faculty in several training projects expressed a desire to forge relationships with the state, but seemed to have difficulty doing so. They believe that MCHB should encourage state programs to seek them out. At the same time, some Title V staff have stated that they find it difficult to learn about services that

Figure 20: Examples of University-Based Collaborations

- The nutrition project at the University of Minnesota and the LEND project at the University of Iowa have established a formal collaborative relationship. The nutrition training project serves as the official academic unit sponsoring nutrition trainees for the LEND project, and University of Minnesota nutrition trainees may complete the 8-week LEND program to fulfill the block field experience requirement. There is also an exchange of faculty between the two universities.
- Because of the lack of medical schools in several northwestern states, the University of Washington serves as a regional training center. Medical students and residents train in their home states for the first 2 years, then complete their clinical training at the University of Washington. The PPC and LEND programs participate in a medical consultation service for physicians in the region and in a visiting professor program for the other states, providing continuing education, technical assistance, and consultation, and conducting research.
- Boston University's behavioral pediatrics training project and occupational therapy training project led the development of Boston's University Partnership Program, through which several universities in Boston collaboratively promote research and education on infant and toddler development. Courses provided through the partnership are open to students from all the participating universities.
- The Pediatric Conclave, developed by the Center for Leadership in Pediatric Physical Therapy Education at the University of Washington, brings pediatric physical therapy faculty from other universities in the northwest region and other MCH Training Program–funded physical therapy training programs together. The faculty meet annually to exchange ideas around pediatric and maternal and child health curricular issues and to develop strategies for improving the training of all physical therapists to meet the needs of the MCH population.

might be available from the MCH training projects. Staff in Title V programs may not even realize that projects in their state are funded by MCHB.

> *"People who work in state MCH offices frequently do not know about the training grants and do not know what types of assistance they could and should be asking for."*
>
> —Associate dean, School of Public Health

- Some projects are focused in areas that are of minimal interest to state offices or otherwise offer little that the states perceive to be directly relevant to them.

> *"Training projects should support the states, but not every training grantee is able to do so. The grantee may not have the skills or what the state needs. Some are researchers, not practically oriented. When I was [a state] MCH director, I found that many [Training Program] grantees did not even know what I was talking about with respect to MCH state needs."*
>
> —Associate dean, School of Public Health

- Projects that are considered to be regional resources may have particular difficulty in establishing relationships with states other than the one in which they are located, due to logistics, travel constraints, or other factors.
- Many of the grants are quite modest, and it may be unrealistic to expect them to serve as resources for Title V programs in addition to the other requirements they must meet.

> *"We can't always respond to a technical assistance request because our activities must be justified from a time-management perspective. We have to be able to link our consultative activities to training or research."*
> —Faculty member, School of Public Health

In some cases, the expectations of a state Title V office and an MCH training project regarding reimbursement for technical assistance differ. Some training projects contend that they are unable to provide any services to states without reimbursement for costs, whereas Title V staff may believe that one of the functions of the MCH training projects is to provide technical assistance to them free of charge. These differing views have occasionally created tension between state Title V offices and MCH training projects.

> *"We have attempted to obtain small grants for technical assistance and consultation from the Title V program, but have met with resistance. They believe that the money in the grant should cover these activities. Due to increasing revenue pressures, the LEND project is now forced to do things through contracts that we could formerly provide for free."*
> – Faculty member, LEND

Figure 22 provides examples of collaboration between Title V programs and MCH Training Program projects.

Summary

The MCH Training Program projects generate an impressive amount of technical assistance and continuing education, often overcoming time and

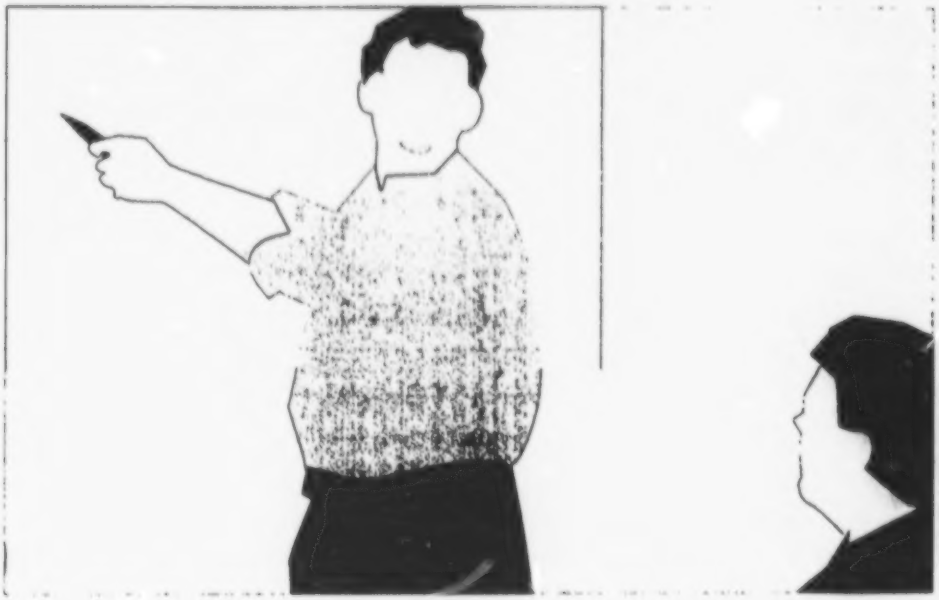
Figure 21: Examples of Consultation with Nonfunded Universities

- The occupational therapy project at Boston University formed the Pediatric Occupational Therapy Educators Network to disseminate MCH and pediatric-related information to non–MCH-affiliated occupational therapy programs around the nation.
- The communication disorders project at Howard University provides consultation with Purdue University, the University of Iowa, and the University of Vermont on how to conduct culturally appropriate research with diverse populations.
- LEAH faculty at the University of California at San Francisco teach core adolescent health courses to MCH students at the University of California, Berkeley, and faculty at Baylor College of Medicine teach an elective course to master's students at the University of Houston-Texas School of Public Health.

Figure 22: Examples of Collaborations Between Title V Offices and MCH Training Program Projects

- State Title V staff serve as adjunct faculty (University of North Carolina at Chapel Hill, School of Public Health and Virginia Commonwealth University, LEND)
- State staff co-teach in exchange for free tuition for other staff in the Title V program (Boston University, School of Public Health)
- Trainees complete field placements in Title V agencies (University of Minnesota, Nutrition)
- The Colorado Department of Health co-funds two positions at the LEND project (Colorado Health Sciences University, LEND)
- The director of the Texas Department of Health, Division of Children with Special Health Care Needs, serves on the Advisory Board to the LEAH project at Baylor College of Medicine (Baylor College of Medicine, LEAH)
- The state Title V director and MCH Training Program epidemiologist serve as faculty and support student research (University of Puerto Rico, School of Public Health)
- The directors of the New York and New Jersey Children with Special Health Care Needs programs serve on the PPC advisory committee (Mount Sinai/Albert Einstein University, PPC)

financial constraints and competing priorities with their universities. Even the most modest grants provide evidence of considerable work in these areas. Cross-project collaboration is also fairly strong, with some training priorities generating a national cadre of professionals who together have the strength to be effective in generating improvements in health services for women and children. Some projects have strong relationships with their Title V programs, but many do not. Those projects that work collaboratively with a Title V program typically find the relationship to be rewarding in a variety of ways.



7

THE ECONOMICS OF MCH TRAINING

The MCH Training Program aims to alter the content and types of academic courses and programs universities offer, the manner in which clinical training is provided, and the activities of faculty. Despite the fact that most of the grants are relatively small, compared with total departmental budgets, many projects do, in fact, effect these changes. At the same time, the projects seem to have difficulty becoming institutionalized—that is, obtaining adequate financial support from their universities such that they could exist in the absence of MCH Training Program support. Essentially all project administrators, including those in universities that have been supported for decades, state that these grant-funded projects would either cease to exist without MCH Training Program support or would be cut so dramatically as to lose their essence. To understand how and why the training grants have an impact that appears out of proportion to their size, and yet why funded projects rarely become self-sustaining, requires a discussion of some of the economics of higher education.

> *"Without MCH [Training Program] funding, there would be few if any adolescent medicine fellowship programs in the country. The private academic institutions will not pay for it, and the public institutions are increasingly in difficulty."*
> —Faculty member, LEAH

The Role of Tuition in Academic Decision-Making

Many people may believe that tuition is an important factor in the courses and programs that universities offer; this argument assumes an economic model of supply and demand in which universities offer courses that students want to take. If this were the case, universities might fully support the academic programs that are now funded by the MCH training grants, and the grants could be phased out. For example, student demand for pediatric content might be reflected in matriculation decisions—students would attend only a university that met their requirements for such content—or students might oversubscribe to courses on pediatric topics.

Although the potential for increasing university income through tuition payments may occasionally affect academic decision-making, it appears not to be much of a factor in the projects supported by the MCH Training Program grants. There are several reasons for this:

- *Strong student demand, leading to a large influx of trainees willing to pay tuition, is*

unlikely in MCH programs: The level of demand for MCH programs that could lead to large numbers of new students does not exist. Such demand is typically related to an expectation that a course of study will lead to an increase in salary. However, MCH training generally does not have such an effect. The provost of one university explains this as follows:

"Usually, student, or trainee, demand is created by a credential that has income associated with it; for example, a student might seek to obtain a credential that would help him or her to get a better paying job afterwards. But that's not necessarily the case in the training of persons to work with children with special needs. There may be a desire, or altruism, and there may be need, but there is no financial driver. At [university], the physician associate program has been converted to a master's degree program and the university has increased the tuition; the market will bear it because when the students graduate they will get good salaries. But in training for children with special needs—that's not true. People are obtaining skills for which they'll probably make less money."

Likewise, the director of an occupational therapy project supported by the MCH Training Program commented that without the tuition support available through the grant there would be little incentive for practicing occupational therapists to return to school for additional training because they are already earning good salaries, and the increased training will not greatly affect their income potential in the future.

In short, a market in the traditional sense for MCH training does not exist.

- *In many universities, tuition payments are unrelated and irrelevant to decision-making.* Tuition may be low relative to other sources of income. For example, at Baylor College of Medicine, tuition accounts for only 3 percent of the budget. At state schools, such as the University of Alabama at Birmingham, tuition also may account for a relatively small percentage of the total budget, with state funding providing a much larger part of the university's income. If tuition is a minor source of income to a university, tuition payments will not have much effect on decision-making.

  In some universities or departments, tuition does constitute an important part of the budget, but the decision-making structure for development of courses or programs is totally divorced from considerations related to tuition income. For example, at the University of Washington, all tuition payments are forwarded to the state treasury. Subsequently, the state legislature develops a budget that it provides to the university, and the university funds its departments based on a variety of criteria. The amount of money a particular department secures in this budget process is largely unrelated to the amount of money its students pay in tuition.
- *In some programs, trainees do not pay tuition.* Much postgraduate training, such as fellowship training for physicians, costs the university. The university does not receive tuition; rather, it must obtain money to support the trainee.

In sum, universities rarely include student demand, as reflected in anticipated increases in tuition payments, in their decision-making about courses and programs of study that will be offered, at least as it relates to MCH-type academic programs. So, even though most MCH training projects are able

to recruit more students than they can train, student interest does not necessarily translate into the institutionalization of MCH courses and programs of study in the absence of MCH Training Program support.

The Role of Other Funding Sources in Academic Decision-Making

Although tuition payments rarely drive academic decision-making, other revenue considerations are quite important. Accreditation is necessary to most programs if they are to recruit both faculty and students, and accreditation requirements are often the primary factor in curriculum decisions. Such requirements become the floor, or the minimum curriculum, and other factors, including in particular other sources of funding, may be used to build on the basic curriculum. For example, the University of Washington School of Public Health, located in Seattle where there are numerous local biotechnology and pharmaceutical firms, is facing strong pressure to orient the school to the conduct of clinical trials; the industry is helping to support such training, and students view the training as leading to lucrative employment.

> *"Because MCH is not a core discipline required for a school of public health to be accredited, it often does not have the same status of other departments. The training grant helps to legitimize our efforts in MCH. It's an excuse to resist pressure from the school and the university to be more generic."*
> —Faculty member, School of Public Health

> *"We live or die by grants. We're always applying or renewing, and we're never sure what the money will allow us to do."*
> —Project director, Behavioral Pediatrics

Faculty at many universities are under intense pressure to generate revenue. There are several ways that they may produce revenue: through clinical work, contracts for consultation and technical assistance, and grants, especially research grants. Universities in particular desire the high indirect costs they gain from research grants. Research also brings prestige. Some universities emphasize research to such a degree that anything else is essentially outside the core mission of the university and is neither valued nor encouraged; this may even include teaching. The research-funding organizations have great power to direct the interests of faculty and, through the types of grants they offer, the content of training. (Graduate students are often recruited to assist in research projects, and faculty may focus their teaching around research activities.) Thus, research grants can sometimes have a large effect on an educational program.

> *"Immunization and infant mortality aren't glamorous. MCH faculty are competing against epidemiology faculty who bring in sexy research grants."*
> —Current student, School of Public Health

Many universities state that service to the community and profession are important components of their mission. Thus, in theory, some of the activities that the MCH training grants require, such as technical assistance and continuing education, fit squarely within the university mission. Sometimes such activities can gen-

erate income. In reality, in many academic settings these activities are tolerated at best; research is the main criterion for tenure decisions and promotions. Given the highly competitive nature of research grants, most faculty who are successful in research endeavors have little time left for community work, and the financial, organizational, and professional rewards for such work may be relatively limited; in particular, technical assistance or continuing education will rarely bring the university as much revenue as a research grant. In short, given the time involved for service activities and the relative benefits as compared with research, the disincentives for such activities within many academic settings tend to outweigh the incentives. MCH training grants appear to be unique in fostering relationships between academia and communities through encouragement of and financial support for technical assistance, consultation, and continuing education. A consistent message from the project directors who were interviewed as a part of the site visits was that no other funding exists for the activities supported through the MCH training grants.

> *"Without the MCH [Training Program] funding, the PPC would become an NIH research center because that is where funding is available."*
> —Project director, Pediatric Pulmonary Center

The Impact of Reimbursement on Clinical Training

Clinical training is funded largely through reimbursements for clinical care from insurance providers or government programs. Reimbursement has a tremendous effect on the type and quality of clinical training. Essentially all respondents concluded that existing clinical training programs would be profoundly affected, and many would cease to exist, if MCH Training Program support was discontinued. Clinical training in general is believed by many persons to be in a state of crisis. According to many observers, cost-cutting, including changes in reimbursement rates implemented by managed care organizations and the Centers for Medicare and Medicaid Services (formerly the Health Care Financing Administration [HCFA]), has degraded the quality of much of the training in clinical care. Thus, some of the economic problems of MCH Training Program grantees are not necessarily unique, but many of the cost-cutting measures appear to have an especially powerful and detrimental effect on these programs. There are three major reimbursement issues that affect these grantees: (1) the requirement for faculty to generate income; (2) the expense of high-quality training, such as interdisciplinary training; and (3) the low remuneration rates for certain fields.

- *The requirement for faculty to generate income:* Faculty in many clinical programs must generate a sizeable proportion of their salaries through clinical reimbursements. In theory, they can and should combine the treatment of patients with the teaching of trainees; in reality, they must limit the time they can spend in teaching in order to generate sufficient clinical income.

> *"There [is] more pressure now to generate clinical revenue so that may reduce time spent training in order to see more patients. Trainees in settings where faculty do not have time to do clinical teaching may not receive optimal training."*
> —Project director, LEAH

The training of clinicians requires tremendous time; trainees do not simply accompany and observe the clinician. Explanations and one-on-one teaching are essential to quality clinical training. HCFA regulations promulgated in 1999 require that physician faculty fully oversee all trainee clinical activities, including writing chart notes for them; thus, trainees place a large burden on practitioners. Even in fellowship programs, this is an issue: Although fellows are fully qualified physicians, they may not charge for their services and must be totally supervised. Designed to prevent improper care of patients, these regulations have the effect of greatly increasing the time required of supervising clinicians, decreasing the practice time of trainees, and reducing clinical revenue at teaching hospitals.

Department chairs are held accountable for generating external sources of revenue to cover all activities within the department. Cost-shifting between research, teaching, and clinical revenue streams has become increasingly difficult. Grant funds to support teaching are largely unavailable and state money to support teaching is quite limited. In this environment, MCH [Training Program] grant dollars play a pivotal role, enabling faculty to teach in a way that ensures adequate time for student learning."
—Project director, Pediatric Pulmonary Center

- *The expense of high-quality training, such as interdisciplinary training:* The MCH Training Program model of interdisciplinary clinical training is expensive. In some projects, teams of health care providers from a variety of disciplines meet, sometimes more than once and for extended periods of time, to review a case and develop treatment recommendations. Such training leads trainees to a better understanding of the whole child and of the contribution that various disciplines can make in treatment, and it provides excellent care to children (especially those with very complicated problems), but it is an extremely time-consuming model with little or no possibility for reimbursement even remotely approaching the cost of the service. Adding to the financial pressure, some of the disciplines that participate in these assessments and clinical services do not receive reimbursement for their services, either from insurance providers or the government. Several respondents noted, for example, that social work and nutrition services are not reimbursable, and that in a tertiary care center, neither are nurse practitioner services. Without the MCH Training Program grant, the training projects would be unable to support nonphysician faculty because the clinical money that these individuals can derive is so limited. Many project directors contend that without MCH Training Program funding, their training programs would revert to a unidisciplinary clinical focus and the quality of the programs would suffer greatly. In the end, clinicians would not be trained as well and ultimately children would receive inferior clinical treatment.

"Current reimbursement structures preclude either the type of training or the types of services being provided through LEND projects. Yet the children being served have very complex problems. . . . Interdisciplinary training will never be self-supporting."
—Project director, LEND

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- *The low remuneration rates for certain fields:* Some fields require practitioners to spend much more time with patients than others do, but these time requirements are not reflected in reimbursement structures. For example, the effective care of adolescents or of children with behavioral problems typically requires considerable time, but payers still assume a 10-minute or 15-minute visit. Similarly, insurers frequently do not understand children with special health care needs and do not allocate enough time for the provision of services to these children. Moreover, the amount of reimbursement for some of these fields lags far behind that for other specialties, even discounting treatment-time requirements.

"Here at UCSF, adolescents are capitated at $8 per month. If an adolescent walks in the door, even one time in a year, you've lost money. So we do not have the ability to transfer money from clinical revenue to offset training."

—Project director, LEAH

In years past, many universities were able to distribute clinical money into all sorts of different initiatives, and they could subsidize the less remunerative programs with funds from programs that were able to command more funds. In many places, this is no longer the case, and thus certain programs are facing severe budget shortfalls. A LEAH project director commented, "Some specialties, such as neonatal care and cardiology, generate much more money than is possible in adolescent medicine. Under managed care, pooling of monies within a department from different specialties is not possible and so the ability for better-funded programs to subsidize underfunded services is eroding." One project director noted that faculty have now begun to secure funding from outside sources and are using it to subsidize clinical care and training.

Leveraging of MCH Training Program Grants

In a surprisingly large number of site-visited projects, respondents reported that the MCH Training Program grant provides the core of the academic program, even when the grants are relatively modest compared with the department's entire budget. Over and over, project administrators asserted that the MCH Training Program funding establishes the direction for a department and facilitates additional funding from other sources that require more targeted activities (e.g., focus on a particular disease). The core support that projects obtain from the MCH Training Program grant pays for key elements of a training program that academic departments often cannot fund from other sources. Support of an interdisciplinary faculty and

allowance for administrative costs, for example, provide a basic infrastructure. Once departments have the core in place, it is easier for them to secure additional funds, including research grants and community contracts. Because the MCH training grant is the centerpiece of the academic program, it defines the program's content and mission.

> *"While the grant represents only 17 percent of the division budget, it is nevertheless the core of the program, providing support for a number of faculty and thus the very possibility of interdisciplinary training, continuing education, and outreach."*
> —Project director, LEND

Grantees report that an MCH training grant supplies credibility that reassures other potential funders, and that some of the programmatic elements required by MCH training grants (such as interdisciplinary training and assistance to the community) provide a competitive edge in securing grants and contracts. However, such grants are rarely training grants, as funding is virtually nonexistent for the types of training the projects provide.

> *"We've tested the waters looking for funding for training. We can't raise charitable money to support training. We cannot figure out how it can be self-sustaining."*
> —Project director, LEND

Many universities provide in-kind support to MCH training projects. Project directors in several universities stated that the MCH training grant initiated a new program that was first supported by additional funds from the university; subsequently, it became possible to obtain more funds from external sources.

> *"Following receipt of the MCH [Training Program] grant, we were able to leverage university dollars to support the development of the department. Once we received the MCHB training money, we were also able to successfully compete for CDC and NIH funding."*
> —Project director, School of Public Health

Grantees frequently identify in-kind funds in their applications, but it is often difficult to discern the extent to which university support that is termed "in-kind" is truly new money. In other cases, a clear pattern exists that shows a university has added its own funds to the grant resources, thereby directly leveraging federal dollars. It is also possible to think of leveraging in another way—namely, keeping a program alive. Although this is not the same as adding funds, it can be thought of as preventing funds from being lost. For example, the project director of the behavioral pediatrics program at the University of Maryland stated that the MCH train-

ing grant affords legitimacy within the university and brings prestige to the department. Other programs within the department that have no federal funding face either serious cutbacks or outright cancellation, but the MCH training grant protects the behavioral pediatrics program from such a fate.

> *"The program began with 100 percent of its funding from the LEND grant. We have secured funds from many different sources and now the program is a $100 million per year enterprise, although the LEND grant remains the only source of interdisciplinary training funds."*
> —Project director, LEND

It is important to note that MCH training grants have extremely low indirect rates—only 8 percent. Because of this low rate, universities are in fact subsidizing the MCH Training Program. The real costs to universities of providing administrative and other services is considerably higher than the indirect rate the universities receive.

> *"Beyond leveraging of funds, the LEND grant has served to establish criteria for the type of work we pursue. If we are approached by someone who asks us to work on a project that doesn't fit these criteria, we don't take it. The entire portfolio is driven by the LEND mission."*
> —Project director, LEND

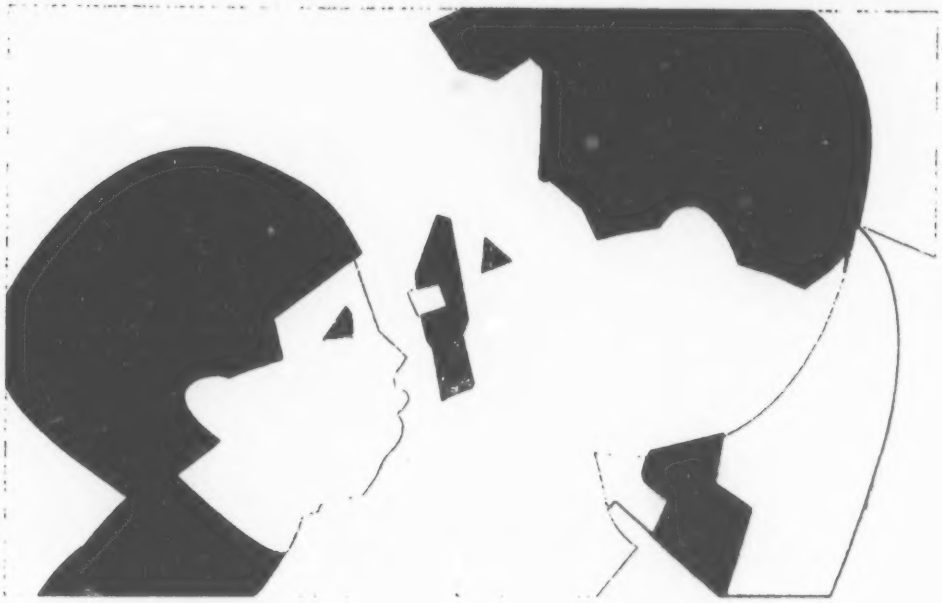
Summary

Without direct MCH Training Program funding, most universities have no particular incentive

to support MCH training. Other, more lucrative sources of revenue, directed to other topics, help determine educational programs. Universities also tend to neither encourage nor support some of the activities that the MCH Training Program grants fund, such as technical assistance and continuing education. Reimbursement issues in clinical training have added additional pressure on faculty in clinical programs, including reducing the time available for teaching. The MCH Training Program grants address all these issues. Moreover, no other source is available to fund the activities required of grantees through the MCH Training Program. The MCH Training Program operationalizes the view that the training of health professionals is a public good, and that there is a legitimate governmental role in sustaining it.

Many projects are able to leverage their grants in ways that greatly increase their influence. However, the leveraging aspect of the grants greatly compli-

cates an analysis of the impact of the program. For example, project directors state that the MCH Training Program grant enables them to hire interdisciplinary faculty, and yet some of these faculty soon come to largely support themselves (e.g., through clinical reimbursements or other grants). In an evaluation, how should one count or otherwise assess the productivity and contributions of such faculty as it relates to the MCH Training Program if the faculty attribute their presence in the department to the MCH Training Program grant but yet are only minimally supported by it? How can the importance of infrastructure support be clearly identified? Grantees believe that they have had a tremendous impact in the field—in changing training practices within their universities, in affecting the careers of their graduates, in contributing new knowledge to the field, and in successfully advocating for systems changes. But these outcomes are frequently only indirectly linked to the funds expended by the projects, although project administrators claim that such outcomes could not occur without the grants. In short, attempting to evaluate these grants by linking what they directly fund to particular outcomes would appear to seriously underestimate the value and contributions of Training Program grants to maternal and child health.



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RECOMMENDATIONS

Information obtained from this project led to a set of recommendations, which are discussed below. Some of these recommendations derive from the observations and conclusions of the site visit team and others from suggestions made by grantees. The recommendations fall into four categories: (1) planning, assessment, and evaluation; (2) portfolio policies; (3) budget; and (4) program stewardship. The evaluation team and advisory committee concluded that five of these recommendations ranked as high priorities (marked with an an asterisk).

Planning, Assessment, and Evaluation

**Recommendation #1: Develop a national MCH strategic training plan in partnership with other public and private organizations.*

The MCH Training Program does not have a strategic plan. The process of developing one could assist MCHB in solidifying partnerships to foster its mission, and such a plan could also provide a clear direction to Training Program staff. A strategic plan that articulates a mission, clarifies goals, includes measurable objectives, and lays out a rational action plan through identification of activities can be a powerful document for a program. Although it would be easier for MCHB to develop a plan for the MCH Training Program alone, a more useful approach would be for Training Program staff to take the lead in the development of an MCH training plan for the nation. The ideal process for developing such a strategic plan would be to engage a broad range of constituencies and seek consensus on goals and objectives. That approach would ensure that other groups with a stake in MCH training could be engaged to work in collaboration with the Training Program. The plan should be centered in the MCH mission and should build on the MCHB strategic plan and *Healthy People 2010*.

Recommendation #2: Request legislation for an MCH Training Program advisory committee. In the meantime, organize and convene an expert panel on an annual basis.

Historically, decisions about the Training Program have been made by MCHB staff, following consultation with grantees and others. Such consultation has been extremely useful but limited, and a consistent, field-based source of information through an advisory committee could enhance decision-making and program stewardship. Many individuals have a strong interest in the Training Program and need to be represented in the decision-making process.

The National Institutes of Health have addressed the problem of securing advice on a regular basis

through the establishment of policy advisory committees that include professionals in the field as well as consumers. Although the formation of a similar standing advisory committee requires legislation, its benefits to MCHB would be considerable. An advisory committee would provide the opportunity for MCHB to obtain information and suggestions from a diverse group of highly respected individuals who, although unrelated to the program, would become very familiar with it over time.

In the absence of legislation permitting an advisory committee, the MCH Training Program could periodically call together an expert panel, as it has done in the past. However, an ad hoc committee is less efficient than a standing one because ad hoc groups must devote considerable time to learning about a program's goals and activities, leaving less opportunity for generating useful suggestions and advice. The inability of such a group to develop an in-depth understanding of the program may render its recommendations less valuable, unless it could be structured to span a considerable length of time. Nevertheless, a panel would be preferable to no panel at all.

The responsibilities of an advisory committee could include provision of advice on various policy issues, feedback on program management, identification of emerging issues that the Training Program might address, and identification of strategies to communicate program successes.

Recommendation #3: Organize a comprehensive training priority review every 5 years.

A strong and compelling case can be made for MCHB to continue to support each of the existing priorities; all priorities address important MCHB goals and promote the MCH vision. Other funding sources do not exist for the activities currently funded through the MCH training grants. Moreover, it takes several years for a university to "ramp up" a training program, so it is not cost-effective for MCHB to frequently change the priorities.

On the other hand, many training needs are not currently represented in the existing priorities, and there is no process for regularly and systematically reviewing priorities to determine if changes need to be made. As discussed in the introduction, the MCH Training Program addresses qualitatively different types of needs, and decisions as to which needs will be emphasized in the program are ultimately based on values and judgment as well as data.

Several of the existing priorities have been funded for decades, for good reason, and deserve continued support for the foreseeable future. Other priorities continue to document impressive accomplishments, leverage a significant amount of funds, and/or address major problems that promise to be with us for many years to come. All the existing priorities address gaps in training that would go unmet without MCH Training Program support. However, given the changing needs in training, MCHB may

need to enhance and provide additional funding to some priorities, whereas others may need to be phased out or refocused over time. A process to regularly review training priorities could be established that would explore the relationship of the needs addressed by the Training Program to evolving MCHB and HRSA goals. Such a process could also assess new training needs based on emerging issues.

The review process might consist of the formation of an ad hoc advisory panel, a literature review, and an opportunity for constituent groups to address the panel. Decisions about altering the existing priorities or adding new ones should be based on answers to the following questions:

- Does the priority promote the MCH vision and address current MCHB goals?
- Does the priority have a significant regional or national impact? (For a new priority, does it have the potential for such impact?)
- Does the priority address a significant problem, one that is not otherwise addressed?
- Is there a compelling case for MCHB support?
- Are there any ways to generate savings in the priority?

Recommendation #4: Utilize and support studies focused on workforce needs and research on emerging issues to help inform decisions related to the funding of different priorities.

Although workforce studies are often fraught with problems and must be based on many (often shaky) assumptions, they are nevertheless important in identifying future training needs and can help inform policy decisions related to the funding of different priorities. MCHB can review workforce studies that have been commissioned by others, collaborate with other organizations that sponsor workforce studies such as those recently supported by the Bureau of Primary Health Professions and others so as to incorporate questions of special interest to MCHB, and occasionally support its own special studies.

Research on emerging issues and reviews of population-based data are other important sources of information for the Training Program. Such research can identify new directions for the Training Program and enable it to address new problems quickly. Examples include health problems that appear to be increasing (such as autism), the effects of new technologies (such as gene-based treatments), and service delivery problems (such as lack of access to health care for certain populations).

**Recommendation #5: Develop a comprehensive and multidimensional evaluation plan that includes project-level studies, analyses across program priorities, and evaluations of the entire MCH Training Program portfolio.*

Evaluation is a necessary aspect of program management, partly to ensure that a program stays faithful to its mission, and also to identify ways to improve it. A large, complex program such as the MCH Training Program requires several approaches to evaluation. In particular, MCHB might consider the following:

- *Require projects to review and critically evaluate themselves,* using annual continuation applications and self-assessment tools such as those used for accreditation. One such self-assessment tool is currently under development by the LEND program network.
- *Provide funding for projects to conduct their own evaluations.* One respondent commented that funders often provide only enough evalua-

tion money to fail: "If you put in an expectation for evaluation but do not provide for technical expertise, it's a huge problem." (Faculty member, School of Health-Related Professions)

- *Support analyses that examine the feasibility and potential benefits of developing and sustaining a comprehensive alumni tracking system.*
- *Support comprehensive external evaluations of each priority* and assess whether or not the projects are having the desired outcomes in communities and the field in general. Such studies will first require that MCHB clearly articulate the outcomes expected for each priority. For example, is community leadership, academic leadership, or both the goal? How could these be measured?
- *Regularly assess the overall training portfolio,* using an external evaluator. This evaluation would address such questions as the extent to which the Training Program is addressing existing needs and whether needs have changed; MCHB's stewardship of the program; and the extent to which the program is meeting its overall goals.

Recommendation #6: Support cost-benefit analyses, cost-effectiveness evaluations, and other studies to assess the value of funding different lengths of training.

This study identified some areas requiring further research and analysis. For example, most directors of training projects with short- and intermediate-term trainees see considerable merit in providing training to these individuals and emphasize the effects exposure to MCH issues will have on the trainees' future careers. However, others believe that the training funds would be more effective if they were focused solely on long-term trainees who, as leaders, presumably will have a larger impact on the field. That is, they question whether it is more fruitful to devote scarce resources to providing a large number of people with a small amount of training as opposed to providing a smaller number of people with extensive training. This evaluation was not designed to address that question, but it is one that deserves attention.

A related issue is the relative value of certain types of continuing education. Many individuals interviewed believe that continuing education is a central component of the mission of an integrated training program, whereas others believe that the money currently devoted to continuing education might provide better value if used for another purpose.

Portfolio Policies

Recommendation #7: Include geographic and population-based distribution as explicit funding criteria and develop a technical assistance capacity to assist potential applicants from states that are underrepresented in the MCH Training Program.

With the exception of grants in California and Washington, few MCH training grants are located in the western half of the United States, whereas a disproportionate number are found in the northeast. Because grantees are better able to work collaboratively with the states that are proximate to them, some observers consider such a distribution to be counterproductive to the national objectives of the Training Program. On the other hand, the Training Program aims to support the highest quality projects as determined by review committees, and universities in some states have not submitted applications judged to be competitive, whereas others do not have the necessary university infrastructure to apply for MCH training grants.

Grants in certain priorities need equitable geographic distribution more than do others. If the

focus of a grant is primarily national rather than local or within a state, it may make little difference where it is located. For example, if there are only two or three projects in the nation in a given priority, and those projects are small and focused on training a professoriate, geographic distribution may be relatively unimportant. However, the MCH Training Program should strive to balance quality in an application with geographic distribution, especially for priorities with relatively large numbers of grantees, such as LEND and the Schools of Public Health.

Recommendation #8: Implement incentives designed to foster a stronger commitment to cultural competence in curricula and racial and ethnic diversity among trainees and faculty.

Many projects see the value of addressing cultural competence within their curriculum and have taken strides to do so. However, many trainees felt that this was an area in which the projects could improve, especially in light of the relatively few racial and ethnic minorities among faculty and trainees and the desire to provide culturally competent services to the populations they serve.

This evaluation suggests that a truly serious commitment to racial and ethnic diversity pays off. Although attracting minority trainees and faculty members may be challenging in some disciplines, a variety of strategies do appear to work. Projects that show progress in achieving cultural diversity devote resources to it and make minority recruitment and retention a high priority, and they develop creative approaches to ensuring diversity. Projects appear to be most successful when the university as a whole is committed to racial and ethnic diversity.

Several ideas were suggested as methods of improving racial and ethnic diversity:

- *Add an evaluation criterion for progress reports and competitive renewals that addresses the ability of projects to attract and retain diverse faculty and trainees.*
- *Provide increased funding to projects that are able to document diversity.*
- *Earmark funding for projects to use in special outreach efforts designed to increase diversity.*
- *Encourage grantees to develop partnerships with Historically Black Colleges/Universities (HBCUs), Hispanic-serving institutions, and tribal colleges and universities.*
- *Provide consultation to training projects that are having difficulty achieving diversity.*

Some of the problems related to minority recruitment and retention must be addressed by the nation as a whole—they are too intractable for MCHB and its grantees to solve on their own. But MCHB can seek opportunities to collaborate with other federal agencies in addressing diversity and it should continuously review the approaches that other agencies have taken for models that might be applicable to the Training Program.

Recommendation #9: Support a series of forums to obtain guidance on modifying existing requirements for the number of disciplines in interdisciplinary projects and appropriate ways of instituting centers of excellence within specific priorities.

Considerable variability exists among grantees with respect to how they interpret and operationalize MCHB's Training Program requirements. Nevertheless, many grantees believe that the requirements are too prescriptive and that better results could be obtained with greater latitude. These grantees suggest that MCHB should more clearly identify the outcomes to be achieved, but allow grantees the flexibility to identify the methods for achieving these outcomes. Some grantees also suggest that MCHB scale back some of its requirements, especially the requirements for very small grants. Specific suggestions for ways to capitalize on the strengths of different grantees include the following:

- *Reduce the number of disciplines required to be on staff, while maintaining the substantive focus.* Or, instead of reducing the total number of disciplines, allow projects more flexibility in determining which disciplines to include in the training project; for example, projects could select from several disciplines the ones in which they are strongest.
- *Within a priority area, encourage (or require) centers of excellence on specific topics.* For example, a school of public health could develop special expertise on cultural competency training, translating research into practice, or other topics that might be identified.

Recommendation #10: Revise the Training Program grant guidances to require evidence of policy and public health foci at both the national and regional levels and to encourage research as one component of a comprehensive program.

MCHB can support only a very small fraction of the training that is needed to ensure that the health needs of women and children are addressed. For that reason, the program emphasizes leadership training as opposed to training for the provision of local clinical services. It is clear from this evaluation that projects that are the most involved in regional and national policy have the greatest overall effect. Thus,

MCHB should consider an even stronger emphasis in the MCH Training Program on training for population-based policy work.

MCHB should also more strongly encourage grantees to undertake research that will help develop the knowledge base needed to grow the field. A few project directors interviewed in the site visits mistakenly believed that MCHB does not allow attention to research in its programs, rather than understanding that the Training Program does not directly fund research. The MCH Research Program may be a natural source of funding that training grantees can tap into.

Budget Policies and Guidelines

Recommendation #11: Strive to support at least six projects in every priority, unless there are clearly articulated policy reasons to fund fewer.

In 1999, the amount of funding among the 13 priorities ranged from $357,813 to $18.2 million and the number of projects per priority ranged from 3 to 35. It was not clear from this evaluation that the current distribution is inappropriate, even with the existing disparities. However, the evaluation team did observe that, unsurprisingly, a larger total amount of support, and especially a larger number of projects in a given priority, has a greater national impact. Just as it is important to have a critical mass of faculty focused on MCH to effect curriculum changes within a university, so it is important to have a critical mass of projects to have a national impact, as reflected in significant policy and service change. Although there was insufficient information available on which to base a firm conclusion, the perception of the evaluation team is that the minimum number of projects needed for an observable national impact is between six and nine. Where there are fewer than six funded projects in a priority, grantees may still accomplish their project goals and make important contributions to MCH, but they are hampered in their ability to make a truly national impact.

Recommendation #12: Consider increasing the maximum allowable amount of student stipends.

Trainee stipends in some projects are quite low. One faculty member commented that the stipends for trainees "are so low that they only pay for parking." Other faculty commented that larger stipends would help increase diversity, especially because the financial needs of racial and ethnic minority students are frequently great and many of these students cannot attend school without adequate financial assistance.

Recommendation #13: Review the different priorities with regard to sustainability expectations to determine if annual increases in grantee budgets should be allowed.

In some projects, flat budgets have led to a situation in which faculty who are supported by the MCH training grant cannot receive raises or cost-of-living increases, creating morale problems. In other projects, faculty must see more patients to receive salary increases, which takes time away from project-based activities. On the other hand, an argument can be made that grantees have the ability to leverage their MCH funds and that they must take responsibility for doing so; grantees who do will flourish, and those who do not must abide with the consequences. However, because the opportu-

nities for securing additional funding vary among the priorities, each priority must be reviewed independently on this issue.

**Recommendation #14: Employ a variety of strategies to increase the total amount of money available for MCH training.*

Project administrators are concerned about the declining funding available for MCH training grants; some projects have experienced cuts, whereas many other projects have seen their purchasing power dwindle due to budgets that have been flat for many years. While the funds have shrunk, the needs have increased. Several suggestions were made by grantees to address this problem, including requiring a match from universities that receive MCH Training Program funding, developing joint training initiatives with other federal agencies, such as the Bureau of Health Professions, the National Institutes of Health and the Bureau of Primary Health Care, and developing funding partnerships with private groups, such as foundations.

Program Stewardship

**Recommendation #15: Develop and implement a communications plan for the Training Program designed to enhance its integration with state Title V agencies and the larger MCH community.*

The accomplishments and successes of the MCH Training Program have not been effectively communicated; consequently, the Training Program is not widely understood. The Training Program's goals are complex, and its activities are numerous. In addition, the needs it addresses are unclear to many people. One result is that the Training Program is not always well integrated with the rest of the MCH community.

A communications strategy could help address these problems. Such a strategy should include development and dissemination of materials that clearly describe the MCH Training Program in lay language and document its achievements, that explain the need for the program, and that show why MCH goals will not be met in the absence of funding for training. The communications strategy should also clearly differentiate this leadership training program from a manpower training program.

As part of the communications strategy, MCHB should collapse the existing 13 priorities into three or four larger groupings. Thirteen is simply too large a number to grasp, and listing all the priorities separately obfuscates rather than clarifies the mission of the Training Program.

One goal of the communications strategy should be to facilitate collaboration among training projects and Title V offices. MCHB should market the Training Program to Title V programs by providing more information about the program to Title V agencies and other groups that are natural partners. For example, MCHB might encourage Title V agencies to solicit MCH training grant recipients as MCH Block Grant reviewers. One project director commented, "The Title V programs need to lean on us more, to know what we can offer."

Recommendation #16: Implement a variety of activities designed to increase opportunities and incentives for collaboration among grantees, including support of grantee meetings and revision of grant evaluation criteria.

This evaluation found benefits when collaboration occurred among grantees, but it also found that

there is considerable room for improvement in terms of collaboration. There are a number of actions that MCHB can take to encourage further collaboration among grantees:

- *Support annual meetings of all priorities.* Although MCHB currently supports meetings of some grantees, not all priorities meet regularly. Collaboration within a priority area is valuable for fostering joint efforts on distance learning, continuing education, and work within professional associations.
- *Support occasional conferences of all grantees.* A conference that encompassed all priority areas could facilitate the adoption of new teaching models (such as "mini-fellowships" and certificate programs) and curricula (such as those on cultural competence). Meetings of grantees across priorities could enhance the ability of grantees to learn from each other and to disseminate more quickly and surely new ideas and approaches to leadership training.
- *Add an evaluation criterion for progress reports and competitive renewals requiring documentation of collaboration among grantees in the same priority area.* There is considerable diversity in the extent to which grantees within a given priority work together, but those who do stress the benefits they derive from collaboration. Collaboration among grantees within a priority can also help foster national policy work.
- *Add an evaluation criterion for progress reports and competitive renewals requiring documentation of collaboration among MCH grantees located in the same university.* Some grantees are effective at collaborating across departmental boundaries and others are not. Collaboration among MCH grantees within a university can generate positive results and reduce the financial burden on individual grantees through the pooling of resources.

**Recommendation #17: Institute procedures designed to improve program administration, including regular program and peer review site visits, enhanced communication with grantees, and simplification of reporting requirements. Ensure adequate staff to carry out these procedures.*

Historically, the Training Program has been very thinly staffed and travel dollars have been limited. Project officers have been unable to regularly visit projects or otherwise work closely with training project personnel. Consequently, staff sometimes have an incomplete understanding of the projects that they monitor, and many grantees experience a lack of connection to MCHB. Suggestions to improve program management include the following:

- *Conduct regular site visits.* Some projects have been funded for decades but have never received a site visit from a project officer. No grantees visited in this study reported receiving regular site visits. Site visits provide an opportunity for staff to identify weaknesses that need correcting and strengths that may be shared with others. At a minimum, newly funded projects should be visited within 2 years of award, and other projects at least once every 5 years. Regional office staff might also be encouraged and supported to make site visits by including such visits in the yearly field office work plan.
- *Organize peer review site visits.* MCHB should consider organizing peer review site visits. NIH and Administration on Developmental Disabilities site visits are cited by grantees as possible models. Site visits are suggested not only for new proj-

ects or projects that are perceived to be struggling, but also for established projects. Site visiting is viewed as a powerful method of encouraging and supporting projects to become stronger.

- *Communicate clearly and regularly with grantees.* Some grantees state that program goals have not been consistently articulated, and they are sometimes confused as to what they should emphasize in their projects. The current guidance, according to some, is confusing and suggests several different foci. Although vague guidances have allowed grantees to flexibly design their programs, grantees also fear being held accountable for the achievement of goals that are unclear to them or for misunderstanding MCHB priorities in competitive rounds. One faculty member commented, "It often feels like a game to try to find out what the priorities are, and who guesses the best, wins."
- *Ensure that budget information provided to grantees is accurate and consistent.* Grantees have received differing information related to certain budget issues, such as whether students who receive stipends are allowed to hold extracurricular employment.
- *Provide written feedback on progress reports.* Project directors state that they are unsure if anyone even reads their progress reports, as they rarely if ever receive any comments on the reports. One grantee suggested that MCHB convene review panels for continuation applications as well as competitive renewals. A review panel would be useful because it could provide constructive feedback.
- *Improve and simplify reporting requirements.* Some projects find the clinical contact forms to be burdensome and expensive and they question the value of collecting this information. Since the Training Program is not designed to be a clinical service program, why should projects track the number of patients seen, patient diagnoses, and demographic characteristics?

The tracking forms for consultation and technical assistance are also perceived to be burdensome; one project director estimated that staff in his program spend from 300 to 400 hours per year on this tracking exercise. Because different projects use different definitions of consultation and technical assistance, tracking may be of little value in assessing a project's contributions or the Training Program's overall accomplishments.

Finally, MCHB needs to review the progress report requirements. Some grantees believe that the level of detail required by these reports is excessive; they question whether the information provided in the reports is needed and utilized. Reducing the reporting burden would free up more time for accomplishing the activities of the projects. One approach would be to devise both process and outcome measures, which could substitute for much of the current narrative.

- *Ensure adequate staff.* To effectively accomplish the activities designed to improve MCHB's stewardship of this large program, MCHB will need to ensure that the Training Program is adequately staffed and that sufficient travel money is available.

Recommendation #18: Review each existing priority in terms of its special issues and modify the guidances as needed in order to improve the ability of grantees to meet MCHB goals.

Some of the Training Program priorities have special issues that deserve attention. Many of these issues are complicated, and no consensus exists on the best way to deal with them. However, MCHB needs to examine each of these issues and propose solutions to the problems they present. Priority-specific issues identified in this study are as follows:

- *Behavioral pediatrics:* The effect of subspecialty status in behavioral/developmental pediatrics on the behavioral pediatrics priority needs to be examined. How should subspecialty status affect training in both behavioral pediatrics and LEND? MCHB also needs to increase the funding levels of these grants, as they are quite low.

  The presentation of behavioral pediatrics fellows' research projects at annual meetings is exemplary and is a model that should be employed by other priorities.
- *HBCUs:* Some HBCUs have limited (or nonexistent) endowments and are unable to provide such basic infrastructure as computers to faculty. MCHB needs to explore how best to support projects in these universities, which are at a competitive disadvantage and yet are so important in training diverse professionals. In addition, MCHB needs to consider expanding this priority to include institutions that serve a predominantly Hispanic or Native American student body.

  The high school component of these projects is innovative; however, it has not been evaluated. MCHB should consider providing funds for evaluation.
- *LEAH:* LEAH projects are highly focused on policy and advocacy. This is to be commended and should be further encouraged. LEAH fellows should be encouraged to continue to present their research at an annual meeting of colleagues.
- *LEND:* An important issue in LEND, one that project directors and faculty acknowledge but have not been fully able to address, is the scalability of the interdisciplinary model. Although the trainees receive exposure to an excellent model, and children with neurodevelopmental problems seen through the projects receive the best possible services, a continuing concern is the impossibility of replicating this model outside of the Training Program, given its high cost and the unwillingness of insurance providers to pay. However, there is clearly value in interdisciplinary training, regardless of whether the model can be widely replicated. MCHB may need to reassess its goals with respect to LEND and consider a revised approach to both training and services, or to encourage research that documents costs relative to the quality of services the model provides. LEND projects would also benefit from developing a strong advocacy component that would help promote and sustain comprehensive services outside the setting of the Training Program.

  MCHB should explore expanding the focus of LEND to all children with special needs, rather than restricting services to children with

neurodevelopmental problems. Such an expansion might help the program to be more fully integrated with state Title V and CSHCN programs. All LEND grantees need to develop partnerships with state CSHCN directors.

The advent of subspecialty status for behavioral/developmental pediatrics and for neurodevelopmental disabilities needs to be reviewed. How should subspecialty status affect training both in LEND and behavioral pediatrics?

The LEND category is unique in terms of the very wide differences in the amount of support provided for each grant. Yet, there is no apparent rationale to support these differences. MCHB should review the distribution of the money within the LEND priority to determine if it accords with the overall mission of MCHB.

LEND grantees should provide opportunities for fellows to present their research at annual meetings of LEND directors.

- *Nursing:* There is a particularly large spread in the amount of support MCHB provides the grantees in this priority. MCHB should consider increasing the amount of funds for the smallest grants. If the spread remains great, MCHB needs to provide a rationale. MCHB should support and foster a policy debate on the appropriate way for the nursing priority to create national MCH leaders and foster changes in the nursing field given the crisis in human resources in this field.
- *Nutrition:* As in the nursing priority, there are great differences among the nutrition projects in terms of grant size. The smallest grants need to be increased and a rationale provided for any remaining significant differences. Considering the national epidemic of childhood obesity, there is a great need for the development of leadership

in this field to support state Title V programs and policies to address this issue. Additionally, the nutrition grants need to reconsider a focus on maternal nutrition, as that appears to have been largely lost.

- *Pediatric dentistry:* The field of pediatric dentistry faces two major challenges: (1) the need for academicians to train the next generation of pediatric dentists; and (2) tremendous disparities in access to dental care, with a shortage of dentists who will accept Medicaid patients. It is difficult to see how a total of two grants can address both of these needs. MCHB should consider increasing the number of grants in this priority and should clarify the desired outcomes from these grants: Is it to produce academicians, clinicians who will treat low-income children, or both?
- *Pediatric pulmonary centers.* The PPCs collaborate among themselves in an exemplary manner. However, PPCs also need to develop strategic partnerships with other key MCH partners, including state directors of children with special

health care needs programs and programs for emergency medical services for children.

As with the other interdisciplinary programs, PPC projects need to emphasize policy and advocacy as opposed to clinical services—several grantees already do so.

PPCs should be encouraged to have fellows present their research at annual meetings of colleagues.

- *Physical therapy, occupational therapy, and communication disorders:* These three categories of grants are small in terms of the dollar amount of the grants, and they are few in number. Several grantees are closely affiliated with LEND programs. Of the projects site visited, one has a strong research component, which is helping to build the field, and another focuses on training doctoral-level individuals who can serve as a new generation of leaders. However, both the size and number of these grants seem to preclude much national impact.
- *Schools of public health:* The student base of schools of public health has changed dramatically in recent years. Many MPH students now do not have a clinical degree—the norm in years past when the priority was first established—but rather enter the program directly from undergraduate school. How should the new educational background of MCH students affect MCH training in public health? This question needs to be fully considered, and the goals of the MCH Training Program in public health reassessed.

As a group, the school of public health projects tend to have strong, positive relationships with Title V programs. Although the evaluation team saw little evidence of current collaboration among projects, in the past schools of public health have worked together to produce the Association of Teachers of Maternal and Child Health (ATMCH) competencies, a notable achievement. Projects in this priority should be more strongly encouraged to develop collaborative relationships with each other.

This priority lends itself well to the centers of excellence concept, in which different grantees would develop a special focus on a particular topic and provide national technical assistance on that topic.

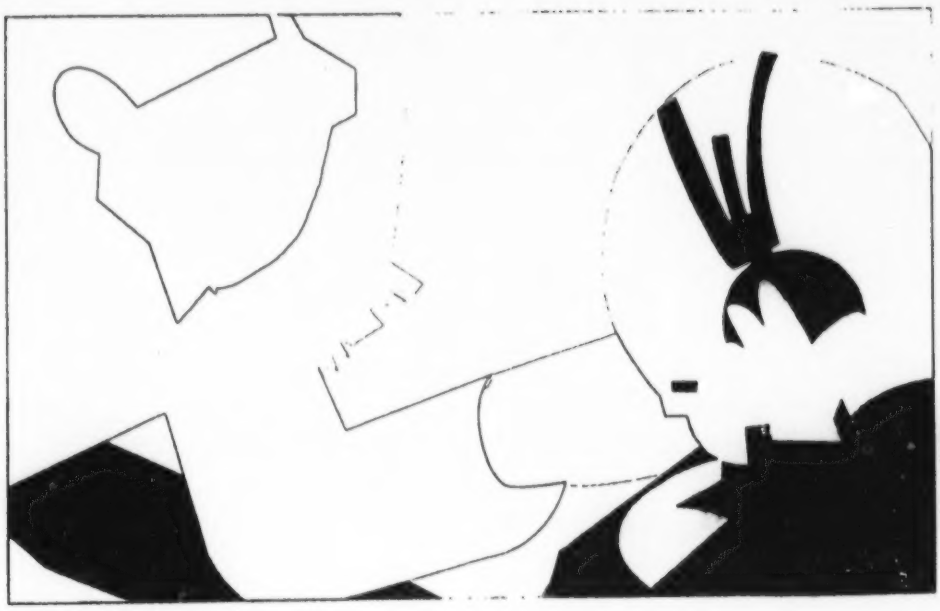
- *Social work:* As with some other priorities, there are too few grants in this category to have a strong national impact. However, the focus that these grantees have taken—namely, to strive to influence the profession—is appropriate. Methods include development and dissemination of national curricula, and support of doctoral-level trainees.

Conclusion

The recommendations presented here are designed to improve a strong program with a long history of impressive accomplishments. A few of the recommendations will be relatively easy to implement, whereas others will require a considerable investment of time, energy, and money. However, given its size and scope, the MCH Training Program deserves this attention.

The faculty and graduates of the MCH Training Program account for many of the important accomplishments in MCH over the last half-century despite the fact that this is a modestly funded program. Some of these accomplishments, such as curriculum development, technical assistance, and the policy work of a committed faculty, are directly and immediately attributable to the Training Program. Others derive from the achievements of the Training Program's graduates over a period of many years, or they represent an effect of leveraging. Overall, the cumulative impact of this program is impressive.

Traditionally, MCHB funds projects in the SPRANS category that have great potential for true excellence and for building capacity where none previously existed. Such projects fill a unique niche. Although sometimes risky, this strategy has often paid off, as documented in this report. In addition, more funding for evaluation and dissemination of information about the accomplishments and contributions of the MCH Training Program will build further support for funding training programs for MCHB in the 21st century.



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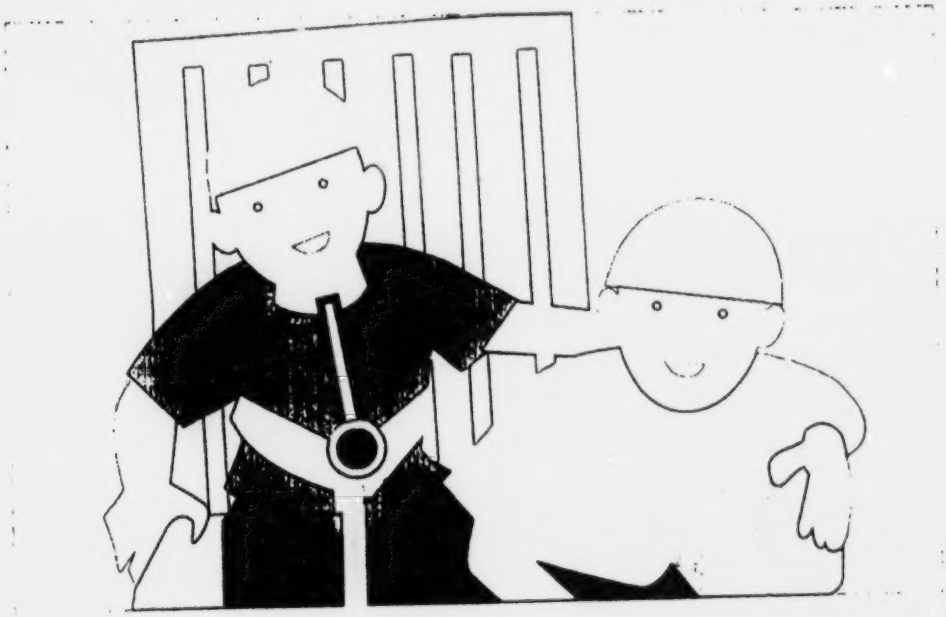

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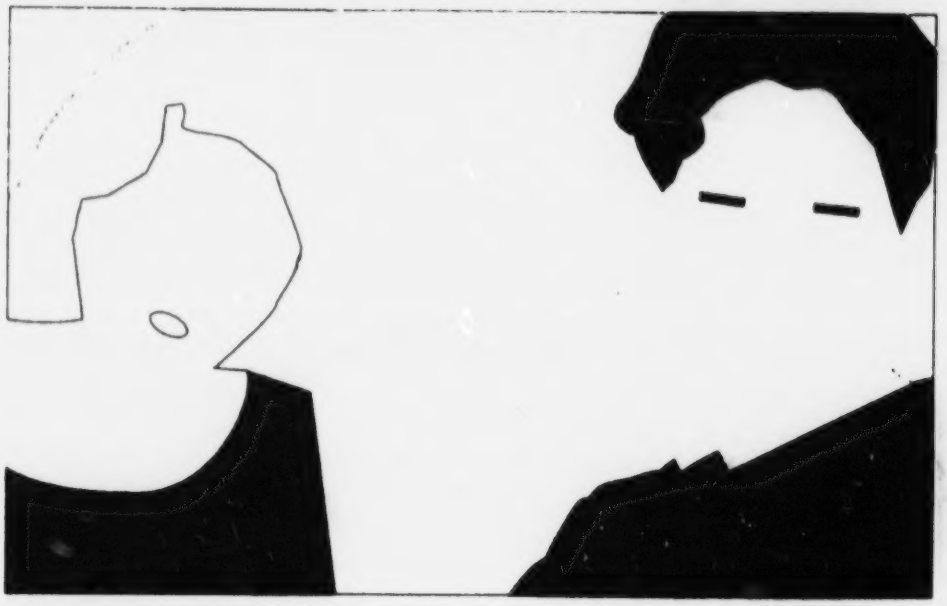

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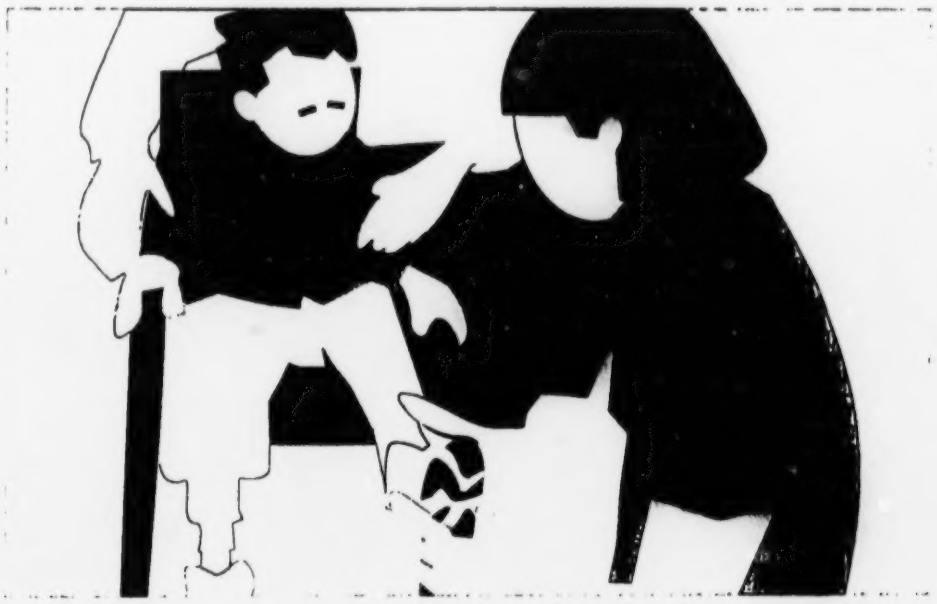

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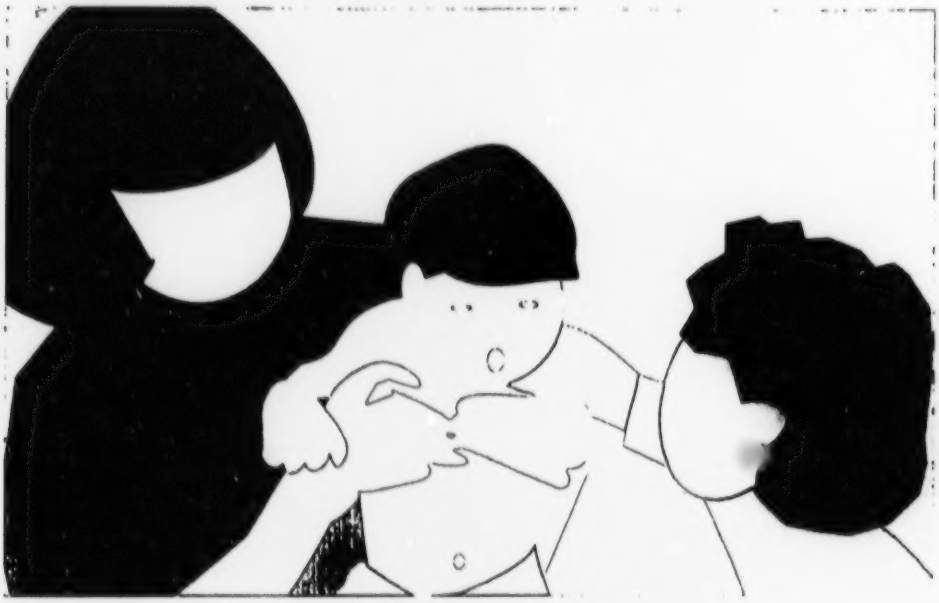

Appendix C: Additional Information on Interviews with Former Trainees

Purpose and Overview of the Interviews

Trainees who complete MCH programs represent a significant product of the MCH Training Program. Consequently, the evaluation included an appraisal of former trainees' perceptions of the impact of the Training Program on their professional development. This aspect of the evaluation addressed whether trainees who graduated from training programs in 1990 or 1995 have assumed leadership positions. Interviews were conducted to probe trainees' perceptions of the extent to which the MCH Training Program assisted them in assuming these leadership positions.

Sample Selection

Several factors were considered in determining the sampling methodology for the interviews, including the diversity of former trainees with respect to training priorities, year of graduation, and whether trainees received financial support from the Maternal and Child Health Bureau (MCHB).

Project directors from the 13 training priorities were asked to generate lists of all trainees who graduated from their programs in 1990 or 1995, including those who received financial support from MCHB and those who did not. A total of 763 trainee names were provided.

Budget and resource constraints allowed only a portion of the trainees to be interviewed. The number of MCH-supported trainees on the list was small but they represent an important investment on the part of MCHB; therefore, a decision was made to attempt to contact all MCHB-supported trainees who graduated in 1990. Non-MCHB-supported trainees who graduated in 1990 were excluded from the sample primarily because of the difficulty in locating and contacting them, as well as the perceived difficulty in comparing findings between MCH-supported and non-MCH-supported trainees.

To determine whether there were differences in the experiences of MCHB-supported and non-MCHB-supported trainees, and because grantees generally had a greater degree of confidence in the accuracy of contact information for more recent graduates, efforts were made to contact both MCHB-supported and non-MCHB-supported 1995 graduates from all training priorities. The exceptions in this case were the Leadership Education in Neurodevelopmental and Related Disabilities (LEND) and School of Public Health priorities. Because of the large number of trainees from these two priorities, a random sample of approximately one-third of these trainees was selected, including students who received stipends and those who did not. Former trainees from the Historically Black Colleges and Universities (HBCU) priority were excluded from the sample because this category of grants does not financially support long-term trainees.

A final sample of 423 former trainees across 12 training priorities was selected to either participate in a brief telephone interview or to provide written responses to a questionnaire, which was mailed to them.

Development of Interview Protocol

Several protocols served as models in the development of the questionnaire, including the University of Southern California University Affiliated Program

Trainee Follow-up Survey,[1] the Maternal and Child Health Bureau/Adolescent Health Training Programs Trainee Follow-up Survey,[2] and the Leadership Training Survey designed and conducted by the seven MCHB-funded Pediatric Pulmonary Leadership Training Centers.[3]

To facilitate data analysis, the questionnaire contained primarily closed-ended questions. These questions were grouped into the following areas:

1. Demographic information
2. Current employment
3. Knowledge, skills, and values gained from the MCH Training Program
4. Participation in leadership activities
5. Mentoring
6. Program strengths and weaknesses

The questionnaire also contained open-ended questions in which trainees were asked to discuss their greatest achievement attributable to their experience in the MCH Training Program, as well as why they would or would not consider themselves leaders in the field.

The MCHB Training Program Former Trainee Interview protocol is available at http://www.ncemch.org/spr/default.html#mchbtraining.

Contact Procedures

Former trainees were initially contacted by mail. Each trainee was sent an introductory packet containing (1) a cover letter briefly explaining the background and purpose of the study, (2) a copy of the Georgetown University Institutional Review Board consent form for the study, (3) a contact information form, and (4) the interview questions. Trainees were given the option of either setting up a time to participate in a brief telephone interview or returning the questionnaire with their written responses. Once the contact information form was received, trainees who preferred to be interviewed by telephone were contacted to schedule the interview at a convenient time for them and then called at the appointed time to be interviewed. The telephone interviews lasted approximately 25 minutes.

Nonrespondents were first followed-up by mail with a reminder postcard and then by telephone. For trainees who provided an e-mail address, an electronic message was sent prior to the follow-up postcard. One attempt by mail and two attempts by telephone were made to reach nonrespondents before excluding them from the sample.

Additional Findings

Key findings from the survey are presented in the body of this report. Additional findings are presented below.

Demographic Information

As shown in Table 5, a total of 423 former trainees were sampled for participation in the interviews. The largest proportion (30 percent; n=129/423) of these trainees were from the LEND training priority, followed by the Schools of Public Health (23 percent; n=97/423), Pediatric Pulmonary Centers (PPC) (13 percent: n=54/423), and Nutrition (13 percent; 53/423) priorities. The highest response rate came from trainees in the Pediatric Dentistry priority (40 percent; n=2/5), followed by Nutrition (38 percent; n=20/53) and Schools of Public Health (34 percent; n=33/97).

Graduates from the 1995 cohort accounted for nearly two-thirds of the respondents (65 percent; n=72/110), in part because 1990 graduates were more difficult to contact.

Table 5. Demographics of Former Trainee Sample and Respondents

Training Priority	Total Number of Potential Respondents	Total Number of Respondents	Cohort	
			1990	1995
Behavioral Pediatrics	10	3	0	3
Communication Disorders	7	1	1	0
Leadership Education in Adolescent Health (LEAH)	20	3	1	2
Leadership Education in Neurodevelopmental and Related Disabilities (LEND)	129	27	12	15
Nursing	17	3	0	3
Nutrition	53	20	5	15
Occupational Therapy	12	3	0	3
Pediatric Dentistry	5	2	1	1
Pediatric Pulmonary Centers (PPC)	54	11	3	8
Physical Therapy	11	3	1	2
Schools of Public Health	97	33	13	20
Social Work	8	1	1	0
Total	**423**	**110**	**38**	**72**

Overwhelmingly, MCH trainees who responded to the survey were master's degree candidates (76 percent; n=83/110); 17 percent (n=19/110) of trainees were engaged in post-doctoral or fellowship work, and 6 percent (n=7/110) were seeking doctoral degrees. One individual was a candidate for both a master's and a doctorate.

Current Employment

Given the clinical nature of the majority of training priorities, it is not surprising that the majority of the former trainees interviewed were currently employed providing clinical services (60 percent; n=65/110), as shown in Table 6. A considerable number of former trainees (31 percent; n=34/110) were employed in an academic setting and/or conducting research. Approximately 15 percent of former trainees were engaged in government service at the local, state, or federal levels.

Participation in Leadership Activities

Clearly, trainees benefited from the knowledge and skills gained through the MCH Training

Table 6. Current Employment of Former Trainees

"How would you classify your current job?" (n=110)[a]

Training Priority	Total Number of Respondents	Academic/ Research	Clinical Services	State Government	Local Government	Federal Government	Student	Voluntary/ Nonprofit	Private Sector	Other
Behavioral Pediatrics	3	3	3	0	0	0	0	0	0	0
Communication Disorders	1	0	0	1	0	0	0	0	0	0
Leadership Education in Adolescent Health (LEAH)	3	3	0	0	0	0	0	0	0	0
LEND	27	7	20	0	2	2	0	3	2	2
Nursing	3	1	3	0	0	0	0	0	0	0
Nutrition	20	4	10	1	2	0	0	2	4	2
Occupational Therapy	3	2	0	0	0	0	0	0	0	1
Pediatric Dentistry	2	0	1	1	0	0	0	0	0	0
PPC	11	3	9	0	0	0	0	0	0	0
Physical Therapy	3	0	3	0	0	0	0	0	0	0
Schools of Public Health	33	12	14	4	3	0	1	0	6	2
Social Work	1	1	0	0	0	0	0	0	0	0
Total	**110**	**36**	**63**	**7**	**7**	**2**	**1**	**5**	**12**	**7**

[a]Former trainees provided multiple responses to this question.

Table 7. Former Trainees' Participation in Leadership Activities

"Please specify whether you have participated in each of the following activities prior to training, since completing training, or both, and whether the MCH Training Program provided relevant knowledge or skills." (n=110)

Activity	Before Training	Since Completing Training[a]	Percent in Activity Participation[b]	Training Provided Knowledge/ Skills[c]
Participating in strategic planning activities for organizations, agencies, programs, or departments	33	75	127	71
Developing guidelines, policies, or procedures	38	83	118	73
Conducting a program evaluation	21	61	190	60
Performing fiscal management for organizations, agencies, programs, or departments	19	47	147	40
Serving in a managerial or supervisory capacity	39	80	105	66
Presenting research results in a state, regional, or national meeting	29	53	83	56
Authoring a peer-reviewed, published article	22	45	105	46
Awarding a grant for a program, demonstration, or task	15	39	160	33
Receiving funding for research	10	32	220	27
Being elected to a leadership position in a professional society	14	38	171	23
Teaching academic courses	26	56	115	47
Participating in public speaking	63	88	40	24

(continued on next page)

Table 7. Former Trainees' Participation in Leadership Activities
continued

"Please specify whether you have participated in each of the following activities prior to training, since completing training, or both, and whether the MCH Training Program provided relevant knowledge or skills." (n=110)

Activity	Before Training	Since Completing Training[a]	Percent in Activity Participation[b]	Training Provided Knowledge/ Skills[c]
Organizing an interdisciplinary team	19	76	300	64
Representing organization at a local MCH meeting	3	38	1167	20
Serving on a grant review panel	5	22	340	20
Serving on a site-visit team	9	25	178	20

Note:

[a]Includes trainees who had prior experience with the activity and those who did not.

[b]Percent increase calculated as follows: [(no. participating in activity since completing training/no. participating in activity before training)/no. participating in activity before training] * 100.

[c]Also includes those who did not participate in the activity either prior to or since completing training.

Program. Although many trainees had been involved in some of the specified leadership activities prior to their MCH Training Program experience, participation in each activity increased subsequent to training. By far, the activity for which there was the greatest increase in participation was that of trainees representing their organizations at MCH meetings; however, this activity was among those that trainees were least likely to attribute to their MCH Training Program experience. Similarly, participation on a grant review panel increased threefold among trainees after training, but trainees did not indicate that the MCH Training Program gave them knowledge or skills particularly relevant to this activity. Among the activities for which former trainees did credit the Training Program were participating in strategic planning activities; developing guidelines, policies, or procedures; serving in a managerial or supervisory capacity; organizing an interdisciplinary team; and conducting a program evaluation. Table 7 provides more detailed information regarding former trainees' participation in leadership activities.

Notes

1. University of Southern California, Center for Child Development and Developmental Disorders University Affiliated Program. n.d. University of Southern California University Affiliated Program Trainee Follow-up Survey. Los Angeles, CA:

University of Southern California, Center for Child Development and Developmental Disorders University Affiliated Program.

2. U.S. Department of Health and Human Services, Maternal and Child Health Bureau. n.d. Maternal and Child Health Bureau/Adolescent Health Training Programs Trainee Follow-up Survey. Rockville, MD: U.S. Department of Health and Human Services, Maternal and Child Health Bureau.

3. Pediatric Pulmonary Centers. 1998. *Outcomes of Leadership Training Survey by the Pediatric Pulmonary Centers funded by the Maternal and Child Health Bureau, September 1998.* Fact sheet.